

**WHETHER SEX-SELECTION FOR NON-MEDICAL
REASONS,
USING PRE-IMPLANTATION GENETIC DIAGNOSIS,
SHOULD BE PERMITTED IN THE UK**

by

MANDEEP DYAL

A thesis submitted to
Birmingham Law School
for the degree of Doctor of Philosophy

Birmingham Law School
College of Arts and Law
University of Birmingham
March 2014

UNIVERSITY OF
BIRMINGHAM

University of Birmingham Research Archive

e-theses repository

This unpublished thesis/dissertation is copyright of the author and/or third parties. The intellectual property rights of the author or third parties in respect of this work are as defined by The Copyright Designs and Patents Act 1988 or as modified by any successor legislation.

Any use made of information contained in this thesis/dissertation must be in accordance with that legislation and must be properly acknowledged. Further distribution or reproduction in any format is prohibited without the permission of the copyright holder.

ABSTRACT

Following over a decade of debate, sex-selection for non-medical reasons using PGD was prohibited by the Human Fertilisation and Embryology Act 2008. The prohibition was justified on the basis of several objections to the procedure. This thesis will consider the veracity of those objections and will focus on the objections relating to: the alleged harms to individuals and families; potential sex ratio imbalance; and sex discrimination and the impact of the prohibition upon Punjabi ethnicity women.

Part I will focus predominantly on the alleged harms of the procedure. It will analyse the manner in which the principles of harm and precaution were applied and interpreted during the consultations and reviews that led to the prohibition. A comparison with the approach taken in relation to 'saviour siblings' will demonstrate the manner in which the principles should have been applied to sex-selection. Part II will consider the issue from the perspective of the north-Indian state of Punjab. An examination of the reasons belying the sex ratio imbalance in Punjab will demonstrate the unlikelihood of such an imbalance materialising within the UK. Sex discrimination and the impact of the prohibition upon Punjabi ethnicity women within the UK will be considered against this background.

For my late Grandfather

ACKNOWLEDGEMENTS

I am very grateful to my supervisor, Dr Stephen Smith, for his guidance and advice over the past three years and for always making himself available to assist throughout the entire process of writing this thesis. This thesis, quite literally, would not have been possible without him.

I would also like to thank my friends and colleagues at Birmingham Law School for their thoughts and advice in relation to post-graduate research and also during my time as a post-graduate teaching assistant. I would particularly like to thank Mr Martin George in this regard.

I am very grateful to my friends and family for their support and encouragement. In particular, I am greatly indebted to my Father for his encouragement, thoughts and comments during the process. I also owe a huge thank you to my good friend Pav, for her constant support and for being a real inspiration in so many ways.

A note of thanks also goes to everyone at Cornwall Street Chambers for their encouragement. I would especially like to thank my wonderful clerks, Kelly, Chris and Matt for being so understanding when I have needed time away from work to complete this thesis and for making that possible.

TABLE OF CONTENTS

<u>CHAPTER 1 – INTRODUCTION</u>	1
(a) Aims and Scope of the Research	1
(b) Definitions	10
(i) Pre-Implantation Genetic Diagnosis (PGD)	10
(ii) The Precautionary Principle	12
(iii) The Concept of Harm	14
(iv) The Harm Principle	18
 <u>PART I</u>	 24
 <u>CHAPTER 2 – BIRTH OF THE HUMAN FERTILISATION AND EMBRYOLOGY ACT 2008</u>	 25
(a) The Early Days: HFE Act 1990	26
(b) Initial Consultations	29
(c) The Mastertons: A Human Face	33
(d) The Need for Review: HFEA’s Review of Sex-Selection Policy	35
(e) A Time for Change: House of Commons Science and Technology Committee’s Review	46
(i) The Committee’s Review	46
(ii) The Government’s Response	49
(f) The Government’s Review	49
(i) Consultation	50
(ii) White Paper	51
(iii) Human Tissue and Embryos (Draft) Bill and HFE Act 2008	52
(iv) Parliamentary Debates	54
(g) Conclusions	63
 <u>CHAPTER 3 – THE PRINCIPLES OF HARM AND PRECAUTION: THE HFEA; THE SELECT COMMITTEE; AND THE GOVERNMENT</u>	 65
(a) The HFEA’s Review	66
(i) Public Opinion	67
(ii) Harm	79
(iii) Other Definitions of Significant Harm	99
(iv) Welfare	107
(v) Application of Harms and Public Opinion	115
(vi) The Precautionary Principle	118
(b) The House of Commons Science and Technology Committee’s Review	119
(c) The Government’s Response	124
(d) Conclusions	128
 <u>CHAPTER 4 – AN EXPLORATION OF EMERGING THREADS</u>	 132

(a) Principles of Harm and Precaution	132
(i) Interpretation	133
(ii) Application	136
(b) Objections	146
(i) Discrimination	146
(ii) Public Policy	149
(iii) Religious Objections	156
(c) Reasons	157
(d) Conclusions	167
 CHAPTER 5 – SEX-SELECTION AND SAVIOUR SIBLINGS	168
(a) The Law	169
(i) The Hashmis	169
(ii) The Current Law	174
(b) Discussion	179
(i) Public Opinion	179
(ii) Harm	184
(iii) The Media and Potential Political Explanations	204
(c) Conclusions	212
 PART II	215
 CHAPTER 6 – SEX-SELECTION AND SEX RATIO IMBALANCE: THE NORTH-INDIAN STATE OF PUNJAB VS. THE SOUTH-INDIAN STATE OF KERALA	216
(a) Punjab and Kerala Defined	217
(b) The Law in India	219
(c) Sex Ratios Compared: Punjab vs. Kerala	224
(i) Sex Ratios	225
(ii) Sources of Female Death in Punjab and Kerala	233
(d) Social, Cultural and Economic Climates Compared	243
(i) Historic Differences between Punjab and Kerala affecting Son Preference: Warfare, Residence, Inheritance and Dowry	246
(ii) Recent Developments	257
(e) The UK Context	262
(i) Has Son Preference been Transported to the UK through Immigration?	263
(ii) Implications for the UK Sex Ratio	269
(f) Conclusions	280
 CHAPTER 7 – PUNJABI WOMEN	282
(a) Sex Discrimination	283
(b) Punjabi Women	292
(i) Do Punjabi-born Women exercise Reproductive ‘Choice’?	293
(ii) Reproductive Health	302
(iii) Detriments of Additional Choice	311

(c) Conclusions	320
CHAPTER 8 – CONCLUSIONS	323
(a) General Conclusions	323
(i) Substantiating Evidence	323
(ii) Public Opinion	326
(iii) Inconsistent Reasoning	329
(iv) Superficial Examination	331
(b) Wider Significance	335
(c) A Final Word	338
APPENDIX	341
BIBLIOGRAPHY	346

TABLE OF LEGISLATION

UK

Abortion Act 1967	270, 275-277, 278
Children Act 1989	15, 65, 80, 89, 99-100, 101, 107, 112, 114, 129, 203, 317, 332
Human Fertilisation and Embryology Act 1990	15, 26-29, 46, 63, 101, 139, 140, 172
Human Fertilisation and Embryology Act 2008	1-2, 12, 18, 25, 29, 63, 65, 101, 129, 132, 139, 157, 167-169, 174-175, 178, 185, 195, 234, 269-270, 283, 292, 304, 332, 343-345
Human Fertilisation and Embryology (Quality and Safety) Regulations 2007	140
Human Tissue and Embryos (Draft) Bill	52-63, 210, 213, 341-345
Sex Discrimination Act 1975	146-147, 283

INDIA

Anti-Dowry Amendment Act 1984	255
Dowry Prohibition Act 1961	255
Hindu Succession Act 1956	252
Hindu Succession (Amendment) Act 2005	252
Medical Termination of Pregnancy Act 1971	238
Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex-Selection) Act 1994	220-224, 294
Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act 1994 ...	219-220
Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Amendment Act 2002	219

TABLE OF CASES

<i>A (Conjoined Twins: Medical Treatment), Re</i> [2001] Fam 147	306-307
<i>McFall v Shimp</i> (1978) 10 Pa. D & C 3d 90	191
<i>R (on the application of Quintavalle) v Human Fertilisation and Embryology Authority</i> [2003] EWCA Civ 667	172-173
<i>R (on the application of Quintavalle) v Human Fertilisation and Embryology Authority</i> [2005] UKHL 28	169, 177, 201, 202
<i>Y (adult patient) (transplant: bone marrow), Re</i> [1997] 2 WLR 556	175-177

LIST OF TABLES

Table 1 – India’s Sex Ratio 1901 – 2011	226
Table 2 – Sex Ratios of Punjab and Kerala 1901 – 2011	230
Table 3 – Sex Ratios in Punjab and Kerala for 0–6 years and 7+ year olds in 2011	232

CHAPTER 1

INTRODUCTION

With the emergence of in vitro fertilisation (IVF) into the public arena in the 1970s, childlessness due to infertility is increasingly being seen as an optional way of life, rather than as a fact of nature. Over the preceding decades, the focus has gradually shifted from the acceptability of infertile couples producing a child through reproductive technologies, to the permissibility of couples producing a *particular* child through reproductive technologies. Today, the questions of whether, when and how to reproduce are attributed great importance by many people living in the UK. For certain segments of a number of ethnic groups within the UK, those questions are of heightened significance as parenthood is considered to be socially compulsory. Furthermore, failure to produce children of a particular gender, overwhelmingly male, is viewed within these segments as a form of childlessness. It is against this background that this thesis will consider the question: should sex-selection using pre-implantation genetic diagnosis be permitted in the UK for non-medical reasons?

(a) Aims and Scope of the Research

The aim of this thesis is to analyse and evaluate the justifications for the prohibition of sex-selection for non-medical reasons using pre-implantation genetic diagnosis (PGD), which is enshrined in the Human Fertilisation and Embryology Act 2008, (HFE Act 2008). The thesis will be structured around the various objections to sex selection for non-medical reasons raised during the lead up to the 2008 Act. McLean and Elliston have described one of the main approaches to objecting to PGD as follows:

The tactic is to home in on the most extreme example that could be imagined and then use it to show the danger of the enterprise being permitted at all, even if the basis for objection is entirely speculative and rests on assumptions of dubious validity. What this form of argument does, then, is to seek to engage people's innate anxieties about just where science may take us.¹

It is extremely important, therefore, to objectively consider and evaluate the objections to the procedure in order to assess whether they hold sufficient merit and weight to justify the prohibition. It will be argued that none of these objections justify the blanket prohibition. The thesis will be divided into two parts. Chapters 2 to 5 will form part I and will focus on the UK, whilst chapters 6 and 7 will form part II and will consider India and the Punjabi perspective.

Chapter 2 of the thesis will set out the consultations, reviews and debates on sex-selection that preceded the 2008 Act. This history will display the evolution of the objections to the procedure and will reveal, in skeleton form, the way in which the justifications for the prohibition were constructed. The chapter will pay particular attention to: (a) the objections that were raised to sex-selection for non-medical reasons; (b) the methods used to elicit public opinion, the results of such exercises, and the way in which the results were used to justify a prohibition; and (c) the way in which 'reasons' for sex-selection were defined, and relied upon, in differentiating the permissible from the non-permissible throughout the different stages of the debates. These three elements will be developed throughout the thesis.

¹ Sheila McLean and Sarah Elliston (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013) 236. The ways in which this has happened in relation to sex-selection for non-medical reasons will become apparent in chapters 2 and 3.

In relation to (a), the objections to sex-selection, chapter 2 will group the objections into four categories: firstly, the potential harms to individuals or families; secondly, public policy concerns; thirdly, sex-discrimination; and finally, religious objections. The first category, of potential harms to individuals and families, will be considered alongside the principles of harm and precaution. This will be developed in chapters 3 and 5. The other three categories of objections will be considered in turn in chapter 4. This will be done in order to determine which objections lack credibility, and can be dismissed, and which objections merit further investigation. It will be concluded that the only objections which merit further consideration, (other than those relating to harms), are public policy objections, insofar as they relate to sex ratio imbalance and setting a bad example for other countries, and those relating to sex discrimination. These objections will be considered in chapters 6 and 7, (part II of the thesis). Chapter 4 will also consider (c) above, (the definition of and reliance upon ‘reasons’ throughout the debates). It will be argued that the structuring of the debates around reasons was too simplistic and masked some fundamental issues, which should have been addressed. An alternative approach to the division of permissible and non-permissible forms of sex-selection will be suggested.

The principles of harm and precaution will form the main threads of part I of the thesis. Chapter 3 will examine significant parts of the history to the Act in greater detail, namely: the HFEA’s 2002-2003 consultation and report; the House of Commons 2005 review; and the Government’s subsequent response. It will be argued that the prohibition of sex-selection for non-medical reasons, as recommended by the HFEA in its 2003 report, was based predominantly on two principles: the harm principle in conjunction with public opinion and the principle of precaution. It will be argued that the harm principle has been applied erroneously in both substance and form. In terms of substance, the alleged harms relied upon

did not amount to either ‘serious harms’ under the harm principle, or ‘significant harms’ according to any of the other major definitions of harm. Nor were the other elements of the principle satisfied. In terms of form, the HFEA failed to apply any of the safeguards built into the harm principle to protect those being, or at risk of being, coerced. Firstly, the HFEA failed to satisfy the requirement that the harms should be substantiated with evidence. It used the principle of precaution to assert that because there was a risk that ‘harms’ could arise, there should be a total prohibition of sex-selection for non-medical reasons, even in the absence of evidence in relation to whether, and to what extent, they would arise. Secondly, it reversed the burden of proof under the harm principle and decided that it is for those being coerced to prove their case. Finally, in direct contrast to a central tenet of the harm principle, that the views of others cannot justify coercion, the HFEA sought to justify its reversal of the burden of proof on the basis of public opposition to the procedure.

Point (b) above, (relating to public opinion), will be considered further in this chapter. Chapter 3 will use the information presented in chapter 2, about the methods of gathering public opinion and the results of such methods, to argue that the public opinion relied upon during the debates was misleading and unrepresentative. Chapter 5 will demonstrate how different methods of eliciting public opinion in the context of saviour siblings yielded a more sympathetic response from respondents, which was then used to justify that procedure, (set out in further detail below).

After the application of the harm principle has been discussed, chapter 3 will then consider the principle of precaution. The subsequent report of the House of Commons Science and Technology Committee and the response of the Government will be examined insofar as they considered the application and interpretation of the precautionary principle. The Committee

reversed the stringent interpretation applied by the HFEA and did not consider that the principle demanded blanket prohibition, whilst the Government disagreed and adopted a stance more akin to the HFEA's. Chapter 4 will elaborate upon this discussion and question which of these interpretations was the more appropriate in this context. The burden of proof under the harm principle will be considered, as it was reversed a number of times throughout the three reports and appears to conflict with the burden of proof under the precautionary principle. An argument will be presented in support of the burden being placed upon those seeking to restrict the procedure.

Chapter 5 will conclude the consideration of the principles of harm and precaution. It will seek to demonstrate that the interpretation, and application, of harm and precaution that this thesis argues in favour of has actually worked in practice, in relation to saviour siblings. The HFEA was debating the permissibility of sex-selection and saviour siblings at around the same time. The same elements of harm, precaution and public opinion formed a significant part of both sets of discussions. However, whilst these factors led to the HFEA recommending the prohibition of sex-selection for non-medical reasons, they were used by the HFEA in order to justify the permissibility of saviour siblings. This was as a result of disparities in relation to: the application of the harm principle; the interpretation of precaution; and the methods of eliciting public opinion. It will be argued that there is no justification for the differences in approach between the two contexts as the same body engaged in the debates in respect of both, (namely the HFEA), the same harms were relied upon in both contexts, the debates happened at the same time and the procedures involved are extremely similar. Had the same 'saviour sibling' approach to these three factors have been adopted in relation to sex-selection for non-medical reasons, the HFEA would have had no alternative but to recommend that the procedure be permitted.

Part II of the thesis will consider the objections relating to sex ratio imbalance, setting a bad example for other countries and sex discrimination. Chapter 6 will examine the assertion that permitting sex-selection for non-medical reasons could lead to a sex ratio imbalance in the UK, either amongst the general population, or amongst certain ethnic minorities. It is important to analyse this objection to the procedure in great detail because whilst it was not relied upon by the HFEA as one of its main objections to the procedure, it was mentioned and implied several times throughout the debates. This objection therefore assisted in creating the sense of hostility towards the procedure that formed the background to the prohibition. However, it was assumed rather than proved or argued. It was never examined properly and was not, therefore, ever challenged. This is very significant given the recent media scandals concerning sex-selective abortions amongst those of 'Indian' ethnicity in February and April 2012.² These again relied upon untested assertions and implied statements that those of Indian ethnicity were seeking a form of sex-selection, without presenting evidence to substantiate this. The objection of sex ratio imbalance will be considered specifically in relation to those originating from the north-Indian state of Punjab. This narrow scope has been adopted because the limited evidence produced during the debates about those likely to be seeking the procedure in the UK related predominantly to those of Indian ethnicity. Whilst India's sex ratio is imbalanced, Punjab has historically displayed the worst sex ratio imbalance of all of India's states. This has been attributed to the extremely high levels of son preference amongst Punjabis. The chapter will compare Punjab with the south-Indian state of Kerala, which has a much more balanced sex ratio. It will seek to uncover the social, cultural and economic

² For example see Jasmine Coleman, 'Clinics Granting Sex-Selection Abortions to be Investigated by Health Officials' *The Guardian* (23 February 2012) <<http://www.guardian.co.uk/world/2012/feb/23/sex-selection-abortions-investigated>> accessed on 25 August 2013; and Claire Newell, Holly Watt and Robert Winnett, 'Abortion Investigation: Doctor Caught Falsifying Sex Selection Paperwork' *The Telegraph* (24 February 2012) <<http://www.telegraph.co.uk/health/healthnews/9102232/Abortion-investigation-doctor-caught-falsifying-sex-selection-paperwork.html>> accessed on 25 August 2013.

differences between the two states which have been thought to exacerbate, or to reduce the prevalence of, son preference. This will illustrate the type of socio-economic climate which is likely to give rise to son preference and the fact that the absence of such a climate is linked to a much lower prevalence of son preference. It will be argued that because the social, cultural and economic factors which give rise to and bolster son preference are largely absent in the UK, son preference would be extremely unlikely to occur amongst the general population in the UK. Therefore, even if the procedure were available in the UK, it would not be widely used in order to produce any particular sex. The question of whether son preference has been transported to the UK via immigration from Punjab will also be examined. It will be argued that son preference is only likely to exist, in a form strong enough to cause someone to undergo the procedure, amongst certain pockets of first generation Punjabi immigrants. Therefore, it will be concluded that it is extremely unlikely that permitting the procedure would lead to a sex ratio imbalance amongst those of Punjabi ethnicity in the UK. The flaws of objecting to the procedure on the basis that it will set a bad example to other countries will also be presented.

Chapter 7 will consider the objections relating to sex discrimination. Two arguments will be put forward. Firstly, that banning sex-selection for non-medical reasons does nothing to combat the foundations of sexist beliefs and sex discrimination. And secondly, that banning the procedure may actually be more damaging for Punjabi women than permitting it. This is because to ban the procedure is to deny that they are, or should be, able to make the decision of whether or not to undergo the procedure. This could be seen as confirming the perception of females as being worth less than males, not being able to be responsible for their own selves, and needing ‘protection’, which are a fundamental part of the beliefs underlying son preference. Therefore, the ban could actually bolster the perceptions underlying son

preference. Objections to this argument will also be considered, most notably, the argument that too many choices can become a burden.

It is acknowledged that this thesis adopts an historical approach in that it looks back at the objections that were raised to the procedure before it was prohibited by Parliament and a large part of the thesis will focus on the 2002-2003 HFEA consultation and the 2005 Science and Technology Committee review. This approach is being adopted for several reasons. Firstly, a discussion of the Parliamentary debates on the Human Fertilisation and Embryology Bill, whilst important, will not provide sufficient ground for a detailed analysis of sex-selection for non-medical reasons on its own. This is because, as will become apparent in chapter 2, there was very little discussion of the procedure and the reasons behind the prohibition in Parliament. It is, therefore, imperative that the thesis looks back to the debates that preceded the Parliamentary debates in order to consider and analyse the reasoning that had led to the Government deciding to prohibit the procedure and the prohibition ultimately being included in the draft Bill. In other words, the thesis will consider how the procedure came to be prohibited by the Bill. Chapter 2 will set out that the procedure has never been permitted in the UK as, even before the statutory ban, it was prohibited by HFEA policy. Considering why the procedure has not ever been permitted provides more fertile ground for analysis as the permissibility of the procedure was debated much more before the Parliamentary debates than during them. Therefore, this thesis will consider all of the significant reviews and debates that formed part of its prohibition, rather than focusing on the Parliamentary debates, which did not consider the issue in any depth and appeared to accept the drafted prohibition within the Bill without the need for further discussion.

Secondly, as set out above, the 2002-2003 consultation considered the issues relating to sex-

selection in more detail than any other consultation or review has to date. The 2005 review disagrees with parts of the HFEA's reasoning and conclusions and offers an alternative approach. Therefore, analysing the reasoning and arguments employed in these two documents is an important part of understanding the arguments that have been relied upon both against, and in favour of, the procedure. Without such an understanding, it is very difficult to determine whether the prohibition was the best way of dealing with sex-selection for non-medical reasons and this makes it difficult to formulate an alternative approach that could be adopted in the future.

Thirdly, it is important to look back at the objections that were raised to the procedure because, if the permissibility of the issue is debated again in the future, it is likely that similar objections would be recited and relied upon by those opposed to the procedure. Therefore, it is important that they are challenged, and where appropriate discounted, now.

Finally, as will become apparent, public opinion was a significant part of why the procedure was ultimately prohibited. It is unlikely that it will be permitted whilst the public is demonstrating significant opposition to it. The views of the public have taken on an even greater significance in recent years as it is now a Cabinet Office requirement that public opinion is sought via consultation in relation to significant proposed changes to public policy.³ Further, as will be discussed in chapter 3, HFEA public consultations now appear to be taking on the role of educating participants to a much greater degree. Therefore, given that the public fear was built around the objections, (certain more than others), their veracity needs to be considered in order to show that the nature and extent of the fear is irrational and that

³ This is discussed in greater detail in chapter 3. For the most recent guidance see: Cabinet Office, *Consultation Principles: Guidance* (17 July 2012, updated 5th November 2013) <www.gov.uk/government/uploads/system/uploads/attachment_data/file/255180/Consultation-Principles-Oct-2013.pdf> accessed on 1st February 2014, (2-3).

there is actually nothing to fear. This will prevent the same fears from being recited over and over again without an analysis of whether they are valid and make sense. It is hoped that the arguments against the validity of the objections set out below will be borne in mind in future debates on sex-selection for non-medical reasons.

The principles to be discussed within this thesis must be defined before the discussion can progress.

(b) Definitions

The key terms requiring definition are: pre-implantation genetic diagnosis; the precautionary principle; harm; and the harm principle.

(i) Pre-implantation Genetic Diagnosis

The first term to be defined is PGD. PGD involves several procedures. The first stages of the process require the use of assisted reproductive technology. The first step is that the patient must take a number of medications, including: Buserelin or Nafarelin medication which prepares the ovaries to respond better to the hormone medication which follows; daily injections of Follicle Stimulating Hormone for 10 – 14 days in order to stimulate egg production; and around 36 hours before the egg collection procedure, one injection of hCG, which causes the eggs to complete the ripening process.⁴ Following this, the egg collection procedure takes place. During this, the patient will be anaesthetised. A needle is inserted through the vaginal wall into each ovarian follicle and the eggs are removed and placed into

⁴ — — ‘The PGD Treatment Cycle’ (*Centre for Preimplantation Genetic Diagnosis* 6 July 2009) <www.pgd.org.uk/whatispgd/stages/stage1.aspx> accessed on 26 August 2013.

an incubator. Thereafter, the patient will need to take progesterone for 17 days to help the lining of the uterus to develop.⁵

Fertilisation is carried out by way of IVF.⁶ The embryos are left to develop until they reach between 6 – 10 cells. At this point, one cell is removed from the embryo using a pipette. The cell is tested for the relevant chromosome, (in the context of sex-selection, for its sex).⁷ A procedure called fluorescence in-situ hybridisation (FISH) is most frequently used to detect the sex of the embryos.⁸ The cells are placed onto a microscope slide to which two DNA probes are attached. One is labelled with flouorochromes attracting the X chromosome and the other is labelled with flouorochromes attracting the Y chromosome. These probes are then applied to the nuclei of each cell. In this way, the sex of each cell can be determined.⁹ It should be noted that the embryo is not genetically modified at any stage. It merely has a cell removed for testing in order to determine its sex.

The embryo(s) that possesses the desired sex is transferred to the patient's uterus.¹⁰ This is done via a catheter, which contains the embryo(s). Ultrasound scans are used to determine when the catheter is in the best position for depositing the embryo(s). Once the position is

⁵ — — 'The PGD Treatment Cycle' (*Centre for Preimplantation Genetic Diagnosis* 6 July 2009)

<www.pgd.org.uk/whatispgd/stages/stage1.aspx> accessed on 26 August 2013.

⁶ IVF is usually used for fertilisation. However, Intracytoplasmic sperm injection (ICSI) is sometimes used instead. On the issue of whether IVF or ICSI is suitable see Peter Braude, Susan Pickering, Frances Flinter, and Caroline Mackie Ogilvie, 'Preimplantation Genetic Diagnosis (2002) 3 *Nature Reviews: Genetics* 941, 943.

⁷ — — 'The PGD Treatment Cycle' (*Centre for Preimplantation Genetic Diagnosis* 6 July 2009)

<www.pgd.org.uk/whatispgd/stages/stage6.aspx> accessed on 26 August 2013. For a detailed account of the different types of cell biopsy see: Karen Sermon, Andre Van Steirteghem, Inge Liebaers, 'Preimplantation Genetic Diagnosis' (2004) 363 *The Lancet* 1633, 1633-34

<<http://web.mit.edu/7.72/restricted/readings/PGDreview.pdf>> accessed on 26 August 2013; Joep Geraedts and Guido De Wert, 'Preimplantation Genetic Diagnosis' (2009) 76 *Clinical Genetics* 315, 316-317.

⁸ *ibid* Sermon.

⁹ *ibid* Sermon 1634.

¹⁰ A maximum of two embryos can be transferred to a woman's uterus at one time. This applies to women under the age of 40 and is specified in the HFEA's guidelines, see — — 'The PGD Treatment Cycle' (*Centre for Preimplantation Genetic Diagnosis* 6 July 2009) <www.pgd.org.uk/whatispgd/stages/stage7.aspx> accessed on 26 August 2013.

determined to be appropriate, the embryo(s) is injected into the uterus.¹¹ Thereafter, the embryo(s) may implant and develop into a foetus.

(ii) The Precautionary Principle

The second term that needs to be defined is the principle of precaution. The ‘precautionary principle’ was one of the key principles that featured in the debates that preceded the 2008 Act. This principle was initially developed in the context of environmental ethics.¹² More recently, however, this principle has been employed in the field of healthcare.¹³

There is no generally accepted definition of the precautionary principle.¹⁴ However, the main elements of the principle are flagged up by Lemons, Shrader-Frecette and Cranor:

a precautionary approach requires the adoption of preventative measures when there is good reason to expect risk or harm to environmental or human health even if available scientific evidence does not make this damage certain.¹⁵

Therefore, the principle requires that (1) *preventative measures* be taken where there is (2) *good reason* to (3) *expect*, even where (4) *available scientific evidence does not make certain*, (5) *risk* or (6) *harm*. I shall take each of these elements in turn. Firstly, given that this principle was developed in the sphere of environmental protection, there is no accepted definition in the general medical sphere, let alone in the specific area of human fertilisation, of what constitutes a *preventative measure*. It would be case specific. Martin elaborates on this

¹¹ *ibid.*

¹² It is most familiar in the fields of climate change and conservation of the natural environment, see Matti Hayry, ‘Precaution and Solidarity’ (2005) 14 *Cambridge Quarterly of Healthcare Ethics* 199. Also see Matthias Kaiser, ‘The Precautionary Principle and its Implications for Science’ (1997) 2 *Foundations of Science* 201, 202.

¹³ *ibid.*, Hayry 199, 202.

¹⁴ John Lemons, Kristin Shrader-Frecette and Carl Cranor, ‘The Precautionary Principle: Scientific Uncertainty and Type I and Type II Errors’ (1997) 2 *Foundations of Science* 207, 210.

¹⁵ *ibid.*

element of the definition by stating that the principle requires that ‘action should be taken to limit, regulate, or prevent potentially dangerous undertakings even in the absence of absolute scientific proof...’¹⁶ According to this, the requirement can be fulfilled by anything from the total prohibition of a treatment to permitting its licensed operation in order to ‘limit’ or ‘regulate’ it. This grants a very wide scope to actions which constitute preventative measures under the principle.

Secondly, there is no consensus as to what constitutes a *good reason*,¹⁷ nor is there an acceptance as to what it means to *expect* risk or harm. Given that the precautionary principle was originally developed to apply to a wide range of potential environmental disasters, again, the most viable approach appears to be that the level of expectation required of risk or harm would have to be case specific.

Kaiser elaborates on the element of lack of *available scientific evidence* by setting out that the principle:

is designed to address the existence of scientific uncertainty in areas where our failure to anticipate (with reasonable certainty) future harm may lead to disaster... in these cases we have to be prepared to act precautionary even though our fears of disaster may turn out to be unfounded in the long run...’¹⁸

Therefore, we must first be operating in an area in which failure to anticipate future harm, with reasonable certainty, may lead to *disaster*. The failure to anticipate the harm with

¹⁶ Philippe H Martin, ‘If you Don’t Know How to Fix it, then Please Stop Breaking it’ (1997) 2 *Foundations of Science* 263, 282-283.

¹⁷ Lemons (n 14).

¹⁸ Kaiser (n 12).

reasonable certainty arises from the existence of scientific uncertainty on the issue. Because science is uncertain on the issue, we cannot be certain that the disaster will materialise. It may or it may not. The precautionary principle provides a mechanism through which decisions can be made regardless of such uncertainty. It is, essentially, a risk control mechanism. The burden of proof, according to the precautionary principle, is largely accepted to be on those calling for new development to show that no, or no more than what is regarded to be an acceptable level of, harm will result from the development.¹⁹

Finally, the precautionary principle requires a definition of the concepts of *risk* and *harm*. *Risk* can be given its dictionary meaning: ‘a situation involving exposure to danger’.²⁰ What constitutes a risk in the general sense is rarely disputed in the context of the precautionary principle. The dispute relates to what *degree* of risk is considered to be sufficient to trigger the operation of the principle. This appears to be context specific. There is no consensus on this issue in the context of human fertilisation.²¹

(iii) The Concept of Harm

The third definition is that of ‘harm’. One of the leading definitions of harm is set out by Feinberg in *The Moral Limits of Criminal Law*.²² Although the concept has been explored by other academics, their definitions appear either to direct the reader to Feinberg’s definition of

¹⁹ Lemons (n 14) 230.

²⁰ — — ‘Definition of Risk in English’ (*Oxford Dictionaries*)
<http://oxforddictionaries.com/view/entry/m_en_gb0712950#m_en_gb0712950>
accessed on 26 August 2013

²¹ This will become apparent as this chapter progresses. For an example of the use of the precautionary principle in relation to fetuses see Deryck Beylerveld and Shaun Pattinson, ‘Proportionality under Precaution: Justifying Duties to Apparent Non-Agents’ (unpublished)

²² Joel Feinberg, *The Moral Limits of the Criminal Law, Harm to Others*, vol 1 (Oxford University Press 1984). There are two other key interpretations of harm which are used more frequently outside of the academic sphere, by lawyers in care practice and medical professionals, (which arise out of s 47 of the Children Act 1989 and s 13(5) of the HFE Act 1990 respectively). These definitions will be explored in greater detail in chapter 3.

harm, or to base their own description of harm upon Feinberg's definition.²³ Feinberg's definition will, therefore, be adopted for the purposes of the discussion below. He sums up the concept by setting out that:

A harms *B* when:

1. *A* acts...
2. in a manner which is defective or faulty in respect to the risks it creates to *B*, that is, with the intervention of producing the consequences for *B* that follow, or similarly adverse ones, or with negligence or recklessness in respect of those consequences; and
3. *A*'s acting in that manner is morally indefensible, that is, neither excusable nor justifiable; and
4. *A*'s action is the cause of a setback to *B*'s interests, which is also
5. a violation of *B*'s rights.

In short, *A* *wrongs* *B* (defined by conditions 1, 2, 3, and 5) and harms his interests (condition 4).²⁴

This requires a lot of unpacking, but I shall limit myself to exploring the elements relevant to the discussions that follow. In relation to condition 1, the acts that harm others are those that

²³ Please see: Andrew Ashworth, *Principles of Criminal Law*, (6th edn, Oxford University Press 2009), 299; Tom L Beauchamp and James F Childress, *Principles of Biomedical Ethics* (6th edn, Oxford University Press 2009), 152-153; Chris M Clarkson, Heather M Keating and Sally R Cunningham, *Clarkson and Keating Criminal Law* (7th edn, Sweet and Maxwell 2010), 13; Andrew P Simester, John R Spencer, Robert Sullivan and Graham J Virgo, *Simester and Sullivan's Criminal Law: Theory and Doctrine* (4th edn, Hart Publishing 2010), 639-641. Other texts do not provide, nor adopt, any definition of harm, but discuss the difficulties of attempting to define the concept, please see: Michael Allen, *Criminal Law*, (10th edn, Oxford University Press 2009), 11; Celia Wells and Oliver Quick, *Lacey, Wells and Quick, Deconstructing Criminal Law* (4th edn, Cambridge University Press 2010), 9-10.

²⁴ Feinberg *The Moral Limits of the Criminal Law* (n 22) 105-106.

violate, invade, impair, set back, defeat, thwart, impede, and doom their interests.²⁵

Interests are of two kinds: ‘ulterior interests’, which can also be described as a person’s ultimate life goals, such as painting good portraits or producing good novels; and ‘welfare interests’, which are necessary as a means of achieving the ulterior interests, such as good health.²⁶ For Feinberg, the invasion of a person’s welfare interests is the most serious type of harm sustainable by a person, as it can deprive them of the means of achieving their ulterior interests, (whilst it is highly unlikely that an equivalent set back could be inflicted by depriving a person of an ulterior interest).²⁷

Not every unpleasant experience constitutes a harm. Feinberg divides such experiences, loosely, into three categories: harms; hurts; and offenses. The latter two generally fall short of amounting to harms. Hurts are most commonly identified as physical hurts, such as aches, stabs and throbs, which may be caused by things such as cuts, bruises, or infections. Hurts may also include ‘mental’ pains, such as, disappointment, wounded feelings, remorse, depression or grief. There may also be non-painful forms of both physical and mental hurt. Non-painful mental states are labelled as ‘forms of offendedness’, and include states such as disgust, anxiety or frustration.²⁸ There is no interest in not being hurt.²⁹

An undesirable thing is harmful only when its presence is sufficient to impede an interest. When a given condition becomes extremely painful, of course, it does interfere with the pursuit of various goals and objectives, and that incapacitating effect renders it harmful as well as hurtful... the hurt is serious enough [to constitute a

²⁵ *ibid* 51.

²⁶ *ibid* 37.

²⁷ *ibid* 37-38.

²⁸ *ibid* 46.

²⁹ *ibid* 47.

harm] if and only if it is either a symptom of a prior or concurrent harm of another order (as a pain in an arm may be the result and sign of a broken bone) or else it is in itself the cause of a consequential harm (e.g. mental breakdown) of another order.³⁰

Therefore, in order to amount to a harm the unpleasant experience must be so extreme that it sets back an interest.

With regard to condition 3, ‘morally indefensible’ means *blameworthy*, having no adequate justification or excuse.³¹ This concept is largely context specific and will be discussed in greater detail in chapter 3.

Finally, in relation to condition 5, ‘rights’ are defined in this context as a ‘valid claim’ which an individual can make either: against specific individuals, such as a claim for damages or compensation, or against all individuals, such as a claim to privacy; or against the state for the same types of claim that he has against individuals and also for enforcement of those claims. Where claims can be made against both individuals and the state, these are legal rights and where the state cannot be made to enforce them they are, generally, moral rights.³² In general, where a person’s moral right is violated that person is wronged. Having said that, protection for claims arising out of certain types of interests is ruled out, for example those causing pain and suffering for their own sake, that is, those that are cruel, sadistic, morbid, wicked and sick.³³

³⁰ *ibid* 48.

³¹ *ibid* 108.

³² Rights can also be both moral and legal, *ibid* 109-110.

³³ *ibid* 111-112.

(iv) The Harm Principle

This leads to the final term to be defined, the harm principle. This principle featured, alongside the principle of precaution, amongst the debates that led to the 2008 Act. The principle rests on the foundation that there should be a presumption in favour of liberty. This requires that, all things being equal, when legislators are faced with the option of imposing a legal duty on citizens or leaving them free to make their own choices, they should opt for the latter. The principle places the burden of proof on the ‘advocate of coercion’ to show that the case for overriding liberty has been made out.³⁴

In order to make out such a case, a ‘liberty limiting’ principle must be shown to carry enough weight to justify liberty being overridden. A liberty limiting principle is a reason which, if weighty enough, will always justify the restriction of liberty.³⁵ Some, most notably Mill, argue that *harm* is the only liberty limiting principle.³⁶ Mill defines the principle in the following terms:

...the only purpose for which power can be rightfully exercised over any member of a civilised community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will make him happier, because, in the opinions of others, to do so would be wise, or even right. These are good reasons for remonstrating with him, or reasoning with him, or entreating him, but not for compelling him, or visiting him with any evil in case he do otherwise. To justify that, the conduct from which it is desired to deter him, must be calculated to produce evil to someone else. The only part of the conduct of anyone, for which he is amenable to

³⁴ *ibid* 9.

³⁵ *ibid*.

³⁶ *ibid*. Also see John Stuart Mill, *On Liberty and Other Writings* (Cambridge University Press 1989).

society, is that which concerns others. In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign.³⁷

Mill, therefore, sees the prevention of harm to others as the only justification for exercising power over an individual. The harm is described in this passage as an *evil*; it must be significant. The harm would need to be attributable to the conduct of the person to be controlled. The opinions of others about what would be a wise or 'right' course of action are irrelevant. In general, the occurring harm must occur to someone other than the actor.

Mill then qualifies this general statement with a number of potential scenarios. Firstly, he recognises that where a person injures himself, thereby violating distinct and assignable obligations to others, either through corrupting or misleading them by the example he sets, by becoming burdensome upon them or by incapacitating himself from discharging an obligation towards them, this may justify coercive measures.³⁸ Mill later builds upon this concept by discussing the engagement of persons in agreements that are injurious to themselves. He uses the example of a person selling himself, or allowing himself to be sold, into slavery. He argues that a person is neither free to enter into such agreements, nor to be bound by them, as no person is free to abdicate his own freedom. In such a situation, Mill argues that no liberty is in operation. The person signing his freedom away has not, in doing so, actually exercised

³⁷ *ibid* 13.

³⁸ '[N]o person is an entirely isolated being; it is impossible for a person to do anything seriously or permanently hurtful to himself, without mischief reaching at least to his near connections, and often far beyond them... If he deteriorates his bodily or mental faculties, he not only brings evil upon all who depended on him for any portion of their happiness, but disqualifies himself for rendering the services which he owes to his fellow-creatures generally; perhaps becomes a burthen on their affection or benevolence; and if such conduct were very frequent, hardly any offence that is committed would detract more from the general sum of good... If by his vices or follies a person does no direct harm to others, he is nevertheless (it may be said) injurious by his example; and ought to be compelled to control himself, for the sake of those whom the sight or knowledge of his conduct might corrupt or mislead... When, by conduct of this sort, a person is led to violate a distinct and assignable obligation to any other person or persons, the case is taken out of the self-regarding class, and becomes amenable to moral disapprobation in the proper sense of the term', *ibid* 80-81.

his freedom, as there is no freedom in permanently relinquishing freedom.³⁹ Dworkin presents a different perspective on this particular issue.⁴⁰ He argues that the decision itself to become a slave is autonomous:

There is nothing in the idea of autonomy that precludes a person from saying, “I want to be the kind of person who acts at the command of others. I define myself as a slave and endorse those attitudes and preferences. My autonomy consists in being a slave”... If this is coherent, and I think it is, one cannot argue against such slavery on the grounds of autonomy. The argument will have to appeal to some idea of what is a fitting life for a person and, thus, be a direct attempt to impose a conception of what is “good” on another person.⁴¹

Therefore, whilst the decision to become a slave may be autonomous, there may still be means of justifying a refusal to enforce such a contract. Those reasons, however, may not be consistent with Mill’s harm principle, as they involve imposing the views of others upon the actor as a means of controlling his behaviour.

The second situation in which a person is justified in interfering with the liberty of another is in order to prevent a crime. An onlooker to a person preparing to commit a crime, writes Mill, is justified in intervening to prevent it.⁴²

³⁹ ‘...by selling himself for a slave, he abdicates his liberty; he foregoes any future use of it beyond that single act. He therefore defeats, in his own case, the very purpose which is the justification of allowing him to dispose of himself. He is no longer free; but is thenceforth in a position which has no longer the presumption in its favour, that would be afforded by his voluntary remaining in it. The principle of freedom cannot require that he should be free not to be free. It is not freedom, to be allowed to alienate his freedom’, *ibid* 103.

⁴⁰ Gerald Dworkin, *The Theory and Practice of Autonomy* (Cambridge University Press 1988).

⁴¹ *ibid* 129.

⁴² Mill (n 36) 96.

The third scenario is the prevention of accidents.⁴³ However, Mill qualifies this by providing that where there is only a risk, and not a certainty, of harm the person should only be warned of the danger and not prevented by force from coming into contact with it, (unless the person is a child or is incapacitated). The reason for this is that ‘no one but the person himself can judge of the sufficiency of the motive which may prompt him to incur the risk...’⁴⁴

The fourth situation in which it is justifiable to restrict the behaviour of others under the harm principle is the warding off of crimes through ‘antecedent precautions’. He uses the example of public drunkenness, but only where such a person has demonstrated a propensity to commit crimes whilst drunk, through having been prosecuted for such crimes. It would be wholly unacceptable to prohibit drunkenness as a precautionary measure where no such propensity has been established.⁴⁵

The fifth, and related, situation is where acts:

... being directly injurious only to the agents themselves, ought not to be legally interdicted, but which, if done publicly, are a violation of good manners, and coming thus within the category of offences against others, may rightfully be prohibited’.⁴⁶

He uses the example of offences relating to indecency.

The sixth scenario relates to those who have an interest, (usually financial), in certain

⁴³ ‘If either a public officer or anyone else saw a person attempting to cross a bridge which had been ascertained to be unsafe, and there were no time to warn him of his danger, they might seize him and turn him back, without any real infringement of his liberty; for liberty consists in doing what one desires, and he does not desire to fall into the river’, *ibid.*

⁴⁴ *ibid* 96-97.

⁴⁵ *ibid* 98.

⁴⁶ *ibid.*

activities that are contrary to the public interest. In particular, he referred to those who make a living out of, for example, prostitution, namely pimps. Whether or not the freedom of such persons should be interfered with is very much a matter of circumstance and degree.⁴⁷

The seventh element discussed is the taxation of items, which are injurious to the interests of consumers, for the purpose of discouraging their usage. Taxation, he concludes, is admissible where it is employed for fiscal purposes, but not where its aim is to make something more difficult to obtain, as the latter is akin to prohibition.⁴⁸

Finally, Mill comments on the restriction of what has, in more recent times, been termed 'reproductive liberty'.⁴⁹ He appears to argue for the justification of coercive measures to prevent people from producing large families where they cannot adequately be supported.⁵⁰ This will be explored further in chapter 3.

In addition to Mill's explication of the harm principle, Feinberg points to five factors to be taken into consideration when determining whether the harm justifies coercion under the harm principle:

⁴⁷ *ibid* 99.

⁴⁸ 'To tax stimulants for the sole purpose of making them more difficult to be obtained, is a measure differing only in degree from their entire prohibition; and would be justifiable only if that were justifiable... But it must be remembered that taxation for fiscal purposes is absolutely inevitable... Taxation, therefore, of stimulants, up to the point which produces the largest amount of revenue (supposing that the State needs all the revenue which it yields) is not only admissible, but to be approved of', *ibid* 101.

⁴⁹ John Harris, 'Sex Selection and Regulated Hatred' (2005) 31 *Journal of Medical Ethics* 291; Tom Baldwin, 'Reproductive Liberty and Elitist Concept: Reply to John Harris' (2005) 31 *Journal of Medical Ethics* 288; Peter Herissone-Kelly, 'The Prohibition of Sex Selection for Social Reasons in the United Kingdom: Public Opinion Trumps Reproductive Liberty?' (2006) 15 *Cambridge Quarterly of Healthcare Ethics* 261.

⁵⁰ 'The fact itself, of causing the existence of a human being, is one of the most responsible actions in the range of human life. To undertake this responsibility – to bestow a life which may be either a curse or a blessing – unless the being on whom it is to be bestowed will have at least the ordinary chances of a desirable existence, is a crime against that being. And in a country either over-peopled, or threatened with being so, to produce children, beyond a very small number, with the effect of reducing the reward of labour by their competition, is a serious offence against all who live by the remuneration of their labour', Mill (n 36) 108.

- a. the greater the *gravity* of a possible harm, the less probable its occurrence need be to justify prohibition of the conduct that threatens to produce it;
- b. the greater the *probability* of harm, the less grave the harm need be to justify coercion;
- c. the greater the *magnitude of the risk* of harm, itself compounded out of gravity and probability, the less reasonable it is to accept the risk;
- d. the more *valuable* (useful) the dangerous conduct, both to the actor and to others, the more reasonable it is to take the risk of harmful consequences...’
- e. the more *reasonable* the risk of harm (the danger), the weaker is the case for prohibiting the conduct that creates it.⁵¹

These terms will form a central part of the discussions which follow. The ultimate focus of these discussions will be whether sex-selection for non-medical reasons using PGD should be permitted.

⁵¹ Feinberg *The Moral Limits of the Criminal Law* (n 22) 216.

PART I

CHAPTER 2

BIRTH OF THE HUMAN FERTILISATION AND EMBRYOLOGY ACT 2008

For the first time in the history of sex-selective technology in the UK, an explicit blanket ban on sex-selection for non-medical reasons has been imposed by statute. This ban is enshrined in the Human and Fertilisation and Embryology Act 2008. Prior to the 2008 Act, the procedure was not explicitly barred by statute and was, instead, regulated through the Human Fertilisation and Embryology Authority (HFEA) Codes of Practice. The Act bans sex-selection other than for the prevention of a serious gender-related disability, illness, or medical condition.⁵²

This chapter will chronologically explore the consultations and debates that led to the Act, for four reasons. Firstly, an exploration of this history reveals a spectrum of differing views on sex-selection for non-medical reasons. The fears and objections relating to the procedure have remained largely static, whereas the weight attributed to them has changed over time. The legitimacy of relying upon such objections will be considered in chapter 4.

Secondly, it will be demonstrated that throughout the debates, the issue of sex-selection using PGD has been divided up according to the reasons for its intended use. A distinction was drawn very early on between ‘medical’ and ‘non-medical’ reasons. The category of ‘non-medical’ reasons has been further sub-divided into several categories, which have often been inconsistently applied and interpreted. The significance attached to these reasons appears to have reconstructed the issue of sex-selection, with its permissibility being linked, at every stage of the debate, to the reasons behind it. At a very early stage there was a push for

⁵² Human Fertilisation and Embryology Act 2008, sch 2 para 1ZA(1)(c).

‘barriers that are not to be crossed, *some* limits fixed, beyond which people must not be allowed to go’.⁵³ The division of sex-selection according to the reasons for its use has been used to facilitate this line drawing exercise by creating distinct milestones at which barriers can potentially be constructed. The detriments of this approach will be considered further in chapter 4.

Thirdly, it will be shown that eliciting and discussing ‘public opinion’ formed an important part of the debates.

Finally, it will become apparent that the debates have had a heavily ethical content at every stage.⁵⁴ In particular, it will be noted that the principles of harm and precaution were interwoven into the discussions at certain points. The significance of the latter two elements will be developed in chapter 3.

(a) The Early Days: HFE Act 1990

1978 saw the birth of Louise Brown, the first ever baby born using in vitro fertilization (IVF). In light of this, and increasing concerns about the speed at which this new and relatively unknown technology was developing,⁵⁵ a committee chaired by Baroness Warnock was created to investigate the budding reproductive technologies of IVF and embryology and their

⁵³ Department of Health and Social Security, *The Report of the Committee of Enquiry into Human Fertilisation and Embryology*, the ‘Warnock Report’, (Cm 9314, 1984), 2, para 5.

⁵⁴ ‘more often than not, the reasoning offered by policy makers and lawmakers for allowing or prohibiting particular forms of sex selection is essentially ethical argument’, Stephen Wilkinson, ‘Sexism, Sex Selection and “Family Balancing”’ [2008] *Medical Law Review* 369, 369.

⁵⁵ Warnock Report (n 53) 4, para 1.1

ethical implications.⁵⁶ It produced the ‘Warnock Report’ in 1984, which concluded that whilst embryos should be protected, embryo research and IVF should be permitted, given appropriate safeguards.⁵⁷

At this time, sex-selection using PGD was a mere hypothetical.⁵⁸ Very little evidence existed as to the implications that this procedure would have within the UK. Nevertheless, the Committee took a tentative glimpse into the future of this technology and foresaw potential problems with its use for ‘social’ reasons. It asserted that it would ‘obviously’ affect the family and the child and that it would also have wider social implications, such as the majority of couples choosing their first child to be male, thus granting him certain advantages over younger siblings. The Committee feared that there would be particular implications for the role of women in society. In light of this, it was recommended that the area should be kept under review.⁵⁹

Following this, in 1987 the Government produced the White Paper, *Human Fertilisation and Embryology: A Framework for Legislation*. Out of its recommendations grew the Human Fertilisation and Embryology Bill, which contained a scheme of regulation and licensing setting parameters within which fertility treatment and research could take place, under the supervision of the newly constructed Human Fertilisation and Embryology Authority. There was very little mention of sex-selection, during the debates generated by the Bill during its passage through Parliament as it was still in its infancy. It was noted in the House of Commons debate on 23rd April 1990 that they had heard for the first time about PGD having

⁵⁶ *ibid* 1, para 1.

⁵⁷ *ibid* 80, para 5.10.

⁵⁸ The Warnock Report discusses the possibility of ‘pre-implantation gender identification’ becoming scientifically possible at some point in the future, *ibid* 50, para 9.8.

⁵⁹ *ibid* 51-52, paras 9.11-9.12.

been performed to avoid sex-linked disease during the week prior to the debate.⁶⁰ However, even at this very early stage, fears relating to advancements in sex-selective technology were surfacing in Parliament, especially where it could be used for non-medical reasons within cultures where preference for male children operated, thus being ‘used as a dreadful selection process whereby the sex was, or was not, in effect, a sentence of death...’⁶¹ Despite the use of such emotive language, these fears were not investigated further at this stage.

The Bill received Royal Assent on 1 November 1990 and the Human Fertilisation and Embryology Act 1990 came into force shortly afterwards.⁶² Section 3 of the 1990 Act stated that:

- (1) No person shall –
 - (b) bring about the creation of an embryo, or
 - (b) keep or use an embryo, except in pursuance of a licence.

Therefore, the creation of, and the subsequent use of, embryos could only be conducted in accordance with a licence. As PGD involves the creation and use of embryos, sex-selection for non-medical reasons using this method would require the grant of a licence to be lawful. It was the responsibility of the HFEA to determine whether such licences should be granted as part of their regulatory function. The HFEA’s Codes of Practice consistently reflected the

⁶⁰ ‘Only last week we heard for the first time that some women were pregnant, having been able to have their embryos **sexed** to make sure that they were not carrying a child with an inherent genetic disease that affects only one **sex**’ HC Deb 23 April 1990, vol 171, col 81.

⁶¹ HC Deb 23 April 1990, vol 171, col 91.

⁶² Section 5 created the HFEA, whose role it was to license treatments and to regulate the storage of, and research on, embryos. The HFEA was placed under a statutory duty to maintain and apply Codes of Practice to regulate reproductive technologies, (see ss 25 and 26). It was also under a duty to provide an annual report to the Secretary of State, which included detailing new developments and issues to be dealt with in the following year, as well as ethical and social issues that could arise through such developments.

stance that licences would not be granted for sex-selection for non-medical purposes. The latest Code of Practice (on the coming into force of the 2008 Act) sets out that centres must ensure that ‘any information derived from tests on an embryo, or any material removed from it or from the gametes that produced it, is not used to select embryos of a particular sex for social reasons’.⁶³ Therefore, prior to the 2008 Act sex-selection for non-medical reasons was not explicitly barred in any statute. It was, however, regulated through the HFEA Codes of Practice, that clearly and consistently laid down the HFEA’s position that it would not support the practice. As far back as the first annual report of the HFEA, the Authority separated medical reasons for sex-selection from ‘social’ reasons and expressed the need to discuss and keep an eye on the latter.⁶⁴

(b) Initial Consultations

In January 1993 the HFEA produced a public consultation document entitled *Sex Selection* and asked whether PGD could be considered necessary or desirable for any ‘social’ reasons.⁶⁵ It set out to examine the ethical, social, legal and practical issues arising from sex-selection,⁶⁶ (although the focus of the report was the ethical perspective).⁶⁷

The consultation document divided the reasons for sex-selection into: ‘medical’ reasons,

⁶³ HFEA, Code of Practice, 8th edition, para 10.T88.d <www.hfea.gov.uk/code.html> accessed on 27 August 2013.

⁶⁴ ‘The issue for consideration is not so much the use of sex preselection for... therapeutic purposes, but rather the potential to which it gives rise for the selection for social reasons of the sex of children born as a result of IVF treatments’ HFEA, *First Annual Report - Report of the HFEA's Work and Financial Accounts* (1992), 27 <www.hfea.gov.uk/docs/Annual-Report-1st-1992.pdf> accessed on 27 August 2013.

⁶⁵ HFEA, *Sex Selection Public Consultation Document*, (22 January 1993 – 1 June 1993), 10, para 44 <www.hfea.gov.uk/docs/Sex_Selection_Consultation_1993.pdf> accessed on 27 August 2013.

⁶⁶ *ibid* 1, para 2.

⁶⁷ ‘Some reasons for sex selection may be ethically more acceptable than others. In order to decide if there are reasons for selecting the sex of a child which are necessary or desirable for the purposes for providing licensed treatment, the ethical issues surrounding the reasons need to be examined’, *ibid* 4, para 16.

comprised of selection to avoid various types and degrees of sex-linked disease;⁶⁸ and ‘social’ reasons, where it was felt that,

A couple may want to have a girl or a boy for a variety of social reasons. For example, they may already have a child, or children, of one sex and would like one of the other or they may attach higher status to one sex rather than the other.⁶⁹

The HFEA, therefore, considered what is often termed ‘family balancing’ to be an element of ‘social’ sex-selection at this stage.

The HFEA issued two thousand copies of the consultation document and received 165 responses. 67% of respondents who ‘discussed the issue in general terms’ were opposed to sex-selection for ‘social’ reasons. 93% of respondents who distinguished between different methods of selection opposed sex-selection for ‘social’ reasons using PGD.⁷⁰

Several arguments were raised by respondents against sex-selection for ‘social’ reasons. The first set of concerns related to discrimination: that it would reinforce sexual stereotypes against women; and that it would lead to a widespread preference of boys over girls. The second set were associated with potential harms to individuals or families: that existing children of the family may be psychologically damaged by parents favouring the child whose sex they had chosen; that children may be turned into consumer objects; and that there may be detrimental effects of misdiagnosis resulting in a child of the ‘wrong’ sex being born. Thirdly, arguments were raised about the potential harm to society. I shall call these public policy

⁶⁸ *ibid* 4, para 14.

⁶⁹ *ibid* 4, para 15.

⁷⁰ Open letter from Sir Campbell to the Parliamentary Under-secretary of State, the Rt. Hon. Sackville M.P., (July 15, 1993), referred to in HFEA, *Sex Selection: Options for Regulation* (2003), 7
<www.hfea.gov.uk/docs/Final_sex_selection_main_report.pdf> accessed on 27 August 2013.

concerns: that sex-selection may lead to sex ratio imbalances amongst certain cultures which favoured male children; that it may lead to sex ratio imbalances in the general population; that sex-selection may lead to the selection of embryos on the basis of other characteristics, such as height and intelligence (the ‘slippery slope’ argument); and that it would be a waste of medical time, resources and skills. The final set of concerns were religious. They were based around the idea that the sex of a child is a matter for God.⁷¹ Very little detail was published about the exact nature of the concerns or their basis, save that the predominant concerns expressed were those relating to discrimination.⁷²

The HFEA took account of the views expressed and incorporated them into its Codes of Practice. After this consultation, the HFEA endorsed the policy of allowing sex-selection using licensed treatments to avoid serious sex-linked genetic diseases. The then Chair of the HFEA, Sir Campbell, acknowledged that the public response to the consultation had been limited.⁷³ Nevertheless, he justified the position of the HFEA on sex-selection on the grounds that it was ‘strongly supported by the public who responded’ to the consultation.⁷⁴ The HFEA later described these results as unambiguous opposition amongst respondents to this type of selection.⁷⁵

In 1999 the HFEA and the Advisory Committee on Genetic Testing (ACGT) issued a Consultation Paper on PGD, on the basis that the wider implications of PGD were ‘of concern to a great many people’.⁷⁶ In November 2001, the HFEA and the successor to the ACGT, the

⁷¹ The concerns were not expressed in the categories that I have now placed them, but in a more random manner.

⁷² Campbell (n 70).

⁷³ *ibid.*

⁷⁴ *ibid.*

⁷⁵ HFEA, *Sex Selection: Options for Regulation* (2003), 7, para 9

<www.hfea.gov.uk/docs/Final_sex_selection_main_report.pdf> accessed on 27 August 2013.

⁷⁶ HFEA/HGC, *Outcome of the Public Consultation on Preimplantation Genetic Diagnosis* (November 2001), Foreward <www.hfea.gov.uk/cps/rde/xbcr/hfea/PGD_outcome.pdf> accessed on 27 August 2013.

Human Genetics Commission (HGC), published its joint report.⁷⁷ One of the objectives of the consultation was to provide recommendations about what type of guidance there should be on offering PGD in light of the ethical issues that the technique gave rise to.⁷⁸ The consultation received 171 responses, (consisting of 124 individual responses and 47 responses from organisations).⁷⁹

Whilst the report stated that respondents strongly expressed the need for restrictions on the use of PGD to prevent its use for frivolous or ‘social’ reasons, or for eugenic purposes,⁸⁰ 11% of those responding thought that there should be unrestricted access to PGD or that it should routinely be offered as part of IVF treatment.⁸¹ Again, no attempt was made to subdivide the category of ‘social’ reasons into different types of non-medical reasons. The report dismissed ‘social’ reasons alongside ‘frivolous’ or ‘eugenic’ purposes, yet referred to them separately from the latter two. This could be interpreted in two ways. It could be that social reasons were thought of as possessing greater merit than purposes that were merely ‘frivolous’ and were less concerning than ‘eugenic’ intentions. However, given that frivolous, social and eugenic purposes were lumped together linguistically, as constituting undesirable purposes for the use of PGD the report appears to be suggesting that they are all unacceptable and unworthy of further explication. This interpretation is supported by the fact that the report made no attempt to explore the meaning of the three terms, nor did it consider the differences between them.

Following this consultation, the HFEA confirmed that PGD should only be available where there is a significant risk of a serious genetic condition being present in the embryo.⁸² Again,

⁷⁷ *ibid.*

⁷⁸ *ibid* 1, para 2.

⁷⁹ *ibid* 11, para 1.

⁸⁰ *ibid* 6, para 25.

⁸¹ *ibid* 14, para 17.

⁸² *ibid* 6, para 28, recommendation 11.

this decision appears to be based largely upon the responses that they received to their consultation.

(c) The Mastertons: A Human Face

The position on sex-selection was catapulted further into the public arena in 2000 by Alan and Louise Masterton. On 22 May 1999, their only daughter and youngest child of five, Nicole, suffered 85 per cent burns as a result of a bonfire accident at the family home. 61 days later, she died of her injuries at the Sick Kids Hospital in Edinburgh. She was aged three years and seven months.⁸³ Mrs Masterton had been sterilized after Nicole's birth. They had been trying for a girl for 15 years and after Nicole's birth they had felt that their family was complete. After Nicole's death they sought to use PGD to produce another daughter.

In 2000, the Mastertons applied to the HFEA to vary the rules on sex-selection using PGD. The HFEA advised the couple that, to be considered, their application would have to be made through one of the five UK fertility clinics. No clinics were willing to make the application on the couple's behalf. Their request was refused.⁸⁴ The Mastertons travelled to Italy and paid £30,000 to have private treatment at the Biogenesi clinic in Rome. Their three attempts at treatment failed. They had produced one male embryo and several female embryos had been unsuccessfully implanted. They donated the male embryo to an infertile couple.⁸⁵

⁸³ Science and Technology Select Committee, *Human Reproductive Technologies and the Law 5th Report* (HC 2004-05, 7-II), Appendix 49, Ev 336.

⁸⁴ — — 'Couple demand right to a baby girl' (9 October 2000) *BioNews* 78
<http://www.bionews.org.uk/page_10897.asp> accessed 25 August 2013.

⁸⁵ — — 'Couple abandon attempts to have IVF baby girl' (24 January 2005) *BioNews* 292
<http://www.bionews.org.uk/page_12230.asp> accessed 25 August 2013.

Following an investigation by the parliamentary Ombudsman, the HFEA apologised to the Mastertons for mishandling their case in 2001. Nevertheless, the HFEA did not overturn its decision.⁸⁶ In June 2004, the Mastertons provided both written and oral evidence as part of a review of the 1990 Act conducted by the House of Commons Science and Technology Select Committee. They agreed that embryos have a “special status” and they felt that there would be ‘grave moral and social dangers’ if PGD were made routinely available. Nevertheless, they felt that their case was strong enough to justify it.⁸⁷

They justified their position in several ways. Firstly, they wanted to ‘replace the female dimension’ to their family that Nicole brought.⁸⁸ They denied that they were trying to replace Nicole⁸⁹ and asserted that they were fully aware that the child would be a person in her own right.⁹⁰ They responded to the floodgate and slippery slope arguments by arguing that, ‘in the intervening twenty years since the birth of the first test tube baby Louise Brown we have had no floods of children being born through IVF, or clones, or masses of deformed children...’⁹¹

The Mastertons also suggested that they had medical reasons for sex-selection on the grounds that Mrs Mastertons’ GP and clinical psychologist were satisfied that her depression, caused by Nicole’s death, would be greatly improved by the use of PGD in an attempt to produce another daughter.⁹² Nevertheless, the HFEA’s policy on prohibiting sex-selection, other than

⁸⁶ *Human Reproductive Technologies and the Law 5th Report II* (n 83).

⁸⁷ *ibid* Minutes of Evidence Q274.

⁸⁸ *ibid*. During an interview with the BBC Alan Masterton elaborated on this limb of their justification: “We felt that Nicole brought two separate things to our family, she brought her own personality, her own individual idiosyncrasities and also she brought a female dimension to the family... It’s basically how she interacted with her brothers, how she interacted with us, her parents, and how the boys interacted with her – how they looked after her... Every one of the brothers was protective towards her. They wouldn’t have harmed her...” — — ‘The Mastertons Webcast: Transcript’, *BBC News* (23 October 2000)

<<http://news.bbc.co.uk/1/hi/scotland/981703.stm>> accessed on 25 August 2013.

⁸⁹ *Human Reproductive Technologies and the Law 5th Report II* (n 83) Minutes of Evidence Q295.

⁹⁰ *Human Reproductive Technologies and the Law 5th Report II* (n 83).

⁹¹ *ibid*.

⁹² *Human Reproductive Technologies and the Law 5th Report II* (n 83) Written Evidence, Appendix 49, Ev 338.

for certain medical reasons, has remained intact.

(d) The Need for Review: HFEA's Review of Sex-Selection Policy

In October 2000, the chair of the HFEA⁹³ stated that the policy on 'social' sex-selection would not change.⁹⁴ Nevertheless, the HFEA carried out a public consultation in October 2002 entitled *Sex Selection: Choice and Responsibility in Human Reproduction*. Its purpose was 'to seek the views of the public concerning under what circumstances sex-selection should be available to those seeking treatment and whether any new legal provisions should be put in place to regulate it'.⁹⁵

The consultation document split sex-selection into two categories according to its purpose: medical reasons and non-medical reasons. Interestingly, it then split the latter category into sex-selection for 'personal' reasons and selection for 'social/cultural/economic' reasons.⁹⁶ Personal reasons were described as follows:

'Sometimes prospective parents have a strong preference for having a child of one sex rather than the other. Often this is where they already have one or more children of one sex and have a strong wish to have a further child of the other sex (this is sometimes called 'family balancing')'.⁹⁷

⁹³ Ruth Deech, chair from 1994-2002.

⁹⁴ Kirsty Scott, 'IVF Selection Still Off Limits' (19 October 2000) *The Guardian* <www.theguardian.com/science/2000/oct/19/genetics.uknews> accessed on 29 August 2013.

⁹⁵ HFEA, *Sex Selection: Choice and Responsibility in Human Reproduction* (October 2002), 6, para 9 <www.hfea.gov.uk/docs/Sex_Selection_choice_and_responsibility.pdf> accessed on 27 August 2013.

⁹⁶ *ibid* 7, paras 14-15.

⁹⁷ *Options for Regulation* (n 75) 7, para 15.

The category of ‘social/cultural/economic’ reasons included that:

‘Sometimes prospective parents want a son in order to carry on a family name, often where this is linked to the possibility of inheritance. In other cases parents just need sons to work the land or bring in wages, or wish to avoid daughters in order to avoid the payment of dowries’.⁹⁸

The HFEA had, therefore, moved from its previous position of categorising family balancing as a ‘social’ reason for sex-selection. It had divided non-medical reasons into a much more complex set of motivations. It was suggested that the former subcategory of family balancing might constitute a less morally objectionable reason for sex-selection, most notably on the ground that it may be felt that family balancing is not based on ‘objectionable forms of sex discrimination’.⁹⁹

The objections raised to sex-selection for non-medical reasons by respondents can, again, be grouped into the four sets of concerns set out earlier. Firstly, that it may reinforce sex discrimination.¹⁰⁰ Secondly, potential harms to individuals or families: that sex-selection treats children exclusively as a means to an end thus interfering with unconditional love; that it treats children as commercial objects;¹⁰¹ that parents would enforce their gender expectations upon the selected child; that misdiagnosis would make it difficult for parents to accept a child of the opposite sex;¹⁰² and that embryos may be created and discarded during

⁹⁸ *ibid.* This distinction has also been noted by Holm, see Soren Holm, ‘Like a Frog in Boiling Water: The Public, The HFEA and Sex Selection’ (2004) 12 *Health Care Analysis* 27, 33-34.

⁹⁹ *Choice and Responsibility* (n 95) 25, paras 82 and 96-99.

¹⁰⁰ *Options for Regulation* (n 75) 17, para 63.

¹⁰¹ *ibid* 18, para 65.

¹⁰² *ibid* para 66.

the process.¹⁰³ Thirdly, public policy concerns were expressed: that it would represent a deterioration of moral standards within society; that it could cause a sex ratio imbalance;¹⁰⁴ that the sex ratio in other countries has been skewed by sex preferences; and that it would be very difficult to restrict 'social' sex-selection to family balancing within the UK.¹⁰⁵ Finally, the religious objections were also present.¹⁰⁶

In addition to the concerns raised during the 1993 consultation two new concerns appeared, which do not fit easily within the prescribed categories and have little validity. The first such concern is that sex-selection involves the destruction of embryos. This is quite a strange concern to level specifically at sex-selection through PGD, as it is an inherent part of any IVF procedure. As part of IVF, many more embryos are created than can ever be implanted and this very often results in the destruction of the surplus embryos. The second new addition is that sex-selection interferes with the course of nature. Again, this argument lacks weight within the medical sphere, which by its very nature entails interfering with the course of nature, (for example, whether to operate on patients to save lives or for other reasons, such as cosmetic surgery).¹⁰⁷

Arguments in favour of sex-selection for non-medical reasons had also been raised during the consultation process, in contrast to the rather one-sided feedback from the 1993 consultation. Respondents in favour of the procedure, in general, argued that the paramount consideration should be parental choice and that the state should not interfere.¹⁰⁸ Certain respondents

¹⁰³ *ibid* 19, para 74.

¹⁰⁴ *ibid* 17, para 63.

¹⁰⁵ *ibid* 20, para 78.

¹⁰⁶ *ibid* 17, para 64.

¹⁰⁷ Edgar Dahl, 'The 10 Most Common Objections to Sex Selection and Why they are Far From being Conclusive: a Western Perspective', (2007) 14 *Reproductive BioMedicine Online* 158, 159

<[http://www.rbmojournal.com/article/S1472-6483\(10\)60752-3/abstract](http://www.rbmojournal.com/article/S1472-6483(10)60752-3/abstract)> accessed on 26 August 2013. This will be considered further in chapter 4.

¹⁰⁸ *Options for Regulation* (n 75) 19, para 70.

supported the procedure, but only for family balancing purposes. They argued that it would reduce the likelihood of women continuing to have children until they gave birth to a child of the desired sex. Others argued that this would help to reduce the burden on the state through child benefit payments.¹⁰⁹

The consultation document was sent to 248 organisations, including fertility clinics, professional organisations and religious and interest groups for comment. The public were able to download it from the HFEA website, to respond to questions online or to write to the HFEA to obtain a copy.¹¹⁰ It sought to elicit public opinion in several ways. Firstly, there was a questionnaire at the end of the document. In response to the statement ‘[t]he use of PGD should be permitted for selecting the sex of offspring for non-medical reasons’, 11.71% agreed and 82.85% disagreed.¹¹¹ 12.39% agreed that it should be permitted for family balancing. 7.30% agreed that sex-selection using PGD should be permitted for non-medical reasons other than family balancing. This suggests that respondents viewed family balancing as less objectionable than other reasons for sex-selection.¹¹²

Secondly, as part of the consultation qualitative research was undertaken by Counterpoint to establish what public attitudes were to the different methods available for sex-selection (with a focus on PGD and sperm sorting) and the range of reasons for which people seek sex-selection.¹¹³ It was felt strongly by participants that there was insufficient public debate at that

¹⁰⁹ *ibid* 18, para 67.

¹¹⁰ *ibid* 15, para 49.

¹¹¹ *ibid* 24.

¹¹² *ibid* 25.

¹¹³ Counter Point, *Sex Selection – Policy and Regulatory Review: A Report on the Key Findings from a Qualitative Research Study* (Prepared for Human Fertilisation and Embryology Authority October 2002), 5 <[www.hfea.gov.uk/docs/Appendix_E_-_Qualitative_Research_Findings_report_of_research_conducted_by_Counterpoint_\(UK\)_Ltd.pdf](http://www.hfea.gov.uk/docs/Appendix_E_-_Qualitative_Research_Findings_report_of_research_conducted_by_Counterpoint_(UK)_Ltd.pdf)> accessed on 27 August 2013. The groups were held in London, Edinburgh, Belfast, Cardiff and Birmingham between 18th June 2002 and 16th July 2002. The participants were divided into eight groups consisting of a range of ages (from 18-60 plus) and a range of social backgrounds. The groups were engaged in hour-long discussions. Four of the

time to make decisions on sex-selection for non-medical reasons. They felt that the issues needed to be put to the public ‘for reasoned debate’.¹¹⁴ Therefore, their ideas in support of, or objecting to, sex-selection were not conclusive as they did not feel that the issue had been explored sufficiently at that stage.

Thirdly, a quantitative survey of the British general public was conducted by MORI (Market & Opinion Research International) Social Research Institute. It involved interviewing 2,165 adults aged 16 and over, face-to-face, in 198 different sampling points. When asked whether ‘[a]ny prospective parent should have the right to choose the sex of their child’, 14% agreed, 13% neither agreed nor disagreed and 69% disagreed.¹¹⁵ 18% agreed and 11% neither agreed nor disagreed that the use of PGD for sex-selection should be permitted for family balancing purposes. 8% agreed and 10% neither agreed nor disagreed that it should be permitted for other non-medical reasons.¹¹⁶ If this were truly representative of the British population, this suggests that almost 10 million people were not adverse to any parent having the right to choose the sex of their child.

In 2003 the HFEA announced its recommendations in the report *Sex Selection: Options for Regulation*. It considered that sex-selection was only justifiable ‘in circumstances in which the likely adverse consequences of using the technique are agreed to be less serious than the consequences of not using it, i.e. the risk of the occurrence of the condition that it is used to

groups reconvened after a week for a further session. Additionally, there were two groups consisting of participants with an Indian background and two groups consisting of those from a Muslim background. Each group was single-sex, with matching age ranges and family circumstances, (6).

¹¹⁴ *ibid* 34.

¹¹⁵ MORI (Market & Opinion Research International) Social Research Institute, *Sex Selection – Public Consultation: Research Study conducted for Human Fertilisation and Embryology Authority* (Prepared for Human Fertilisation and Embryology Authority January 2003), Q 3 <www.hfea.gov.uk/docs/Appendix_F.pdf> accessed on 27 August 2013.

¹¹⁶ *ibid* Q 5.

avoid'.¹¹⁷ This passage provides that the seriousness of the condition that selection is used to avoid, (in other words, the medical reason for its use), must outweigh the likely adverse consequences of using the technique. Therefore, the reasons or purpose for which sex-selection is to be employed were placed, once again, at the centre of its permissibility. On this basis it was recommended that sex-selection using PGD should only be available for certain medical reasons and that the regulatory prohibition on sex-selection for non-medical reasons remain.

It dealt directly with the question of 'motives' for sex-selection:

'Although some people's private motives for wishing to select in favour of a particular sex may be perceived as morally unacceptable, in our view they need not always be so. In our view it is neither possible nor desirable to restrict access to sex selection on such criteria'.¹¹⁸

This paragraph is quite confusing when looked at in the context of the approach taken by the HFEA. It could mean one of two things. Firstly, if we equate *motives* with *reasons* or *purposes*, the HFEA could be stating that the moral acceptability of a person's reasons for wanting to use sex-selection cannot constitute a legitimate basis upon which to restrict their access to the procedure. This is wholly inconsistent with the approach that the HFEA adopted, as the morality of reasons for sex-selection formed the central tenet of their investigation into what should be permitted; with sex-selection for medical reasons seen as more morally acceptable than sex-selection for non-medical reasons, and family balancing considered to be less morally objectionable than selection for 'social' reasons, but still not as acceptable as

¹¹⁷ *Options for Regulation* (n 75) 30, para 121.

¹¹⁸ *ibid* 34, para 137.

selection for medical reasons. In this way, the HFEA itself relied on the reasons for sex-selection as the basis for its division of the issue into medical and non-medical reasons. Therefore, the motives or reasons behind the desire to choose the sex of a child were central to whether the selection should be permitted.

Secondly, however, the HFEA could be taking *motives* to mean something different to *reasons* or *purposes*. On this interpretation of the passage, the HFEA appears to be accepting that it is not legitimate to take a person's private *motives* into consideration in deciding whether or not sex-selection should be permitted, but that it is legitimate to take the reasons for which they are seeking sex-selection into account. The question, then, is what is the difference between *motives* and *reasons* or *purposes* in this context? The HFEA's use of the word *private* when referring to *motives* provides a clue. It could be that the HFEA views outwardly expressed reasons for seeking sex-selection as open to scrutiny and judgment, but not privately held beliefs and desires.¹¹⁹ If this is the true meaning of the passage it has substantial repercussions for arguments that allege that sex-selection for non-medical reasons would give rise to sex discrimination. Those seeking sex-selection are hardly likely to express, as their reason for seeking the treatment, that it would further their sexist objectives. Such a purpose is more likely to be an unexpressed private, and perhaps subconscious, motivation. Therefore, the declaration that motives should not constitute criteria upon which to ban sex-selection precludes the HFEA from being able to take discriminatory objectives into account in attempting to ban selection for non-medical reasons. However, the HFEA did not elaborate on its intended meaning.

¹¹⁹ Oberdiek discusses a very similar concept, that of operative and normative reasons for selecting sex. He argues that only the normative reasons are important in appraising behaviour as they form the justification for it. The operative reasons, he argues, should not carry weight', in John Oberdiek, 'Reasons, Motivation, and Sexism' (2001) 1(1) *The American Journal of Bioethics* 38.

The two principles of harm and precaution appear to have formed a large part of the HFEA's reasoning.¹²⁰ In relation to harm, the HFEA stated that 'the most persuasive' arguments for the prohibition related to potential harms to the welfare of children and families, namely that: (1) upon discovering that they were selected on the basis of their sex alone, resulting children may be psychologically damaged; (2) resulting children would be treated prejudicially by their parents; and (3) existing children may be neglected by their parents.¹²¹ Despite the fact that there was a lack of substantiating evidence in this regard, the HFEA decided that due to the weight of public opinion against permitting the procedure, it should be banned.¹²² The precautionary principle was used to bolster the approach taken by the HFEA in that it was interpreted in a very stringent manner, which would not permit the procedure even in a heavily regulated pilot form. Therefore, there was no way in which the alleged harms of sex-selection could either be refuted or proved. An in depth consideration of this element of the HFEA's decision-making will form the subject matter of the next chapter.

It should be noted that the outcome of the consultation was discussed during the HFEA meeting on 15th May 2003.¹²³ The members of the HFEA acknowledged that the consultation 'provided a strong steer that current public opinion was against sex selection'.¹²⁴ Nevertheless, the minutes of the meeting reveal that many members of the HFEA were not actually opposed to sex-selection for non-medical reasons, provided that it was regulated. Many felt that access to a technique should be permitted provided that the technique was safe and that the HFEA should not support any treatments that were found to be unsafe. The

¹²⁰ See: *Options for Regulation* (n 75) 34, para 132, (which is a re-statement by the HFEA of the harm principle), and 35, para 141, (which is an explanation by the HFEA of the need to employ a 'cautious' approach).

¹²¹ *Options for Regulation* (n 75) 34, para 139.

¹²² *ibid* 36, para 147.

¹²³ HFEA, 'Minutes of the Authority Committee Meeting' (held at the Royal College of Obstetricians and Gynaecologists) 15 May 2003.

¹²⁴ *ibid* para 38.

minutes of that meeting reveal that:¹²⁵

...although many of the members disagreed with the views expressed in the public consultation and would support providing patients with the freedom of choice, the public's response to sex selection as demonstrated in the consultation would need to be taken into account. There were a range of views expressed by members during the debate on the distinction between permitting sex selection for medical reasons only, as opposed to for social purposes, e.g. 'family balancing'. However, all members were in agreement that if sex selection were to be permitted it should be subject to regulation.¹²⁶

The members discussed several further issues that related to sex-selection for non-medical reasons. Firstly, they considered the notion of 'family balancing'. Some of the practical implications of permitting the procedure were discussed, such as the need to provide patients with counselling:

It was felt that if 'family balancing' were to be permitted a great degree of patient counselling would also be required to support the process. This would particularly be the case if a restrictive framework, such as allowing sex selection for the second child in a family, were to be permitted.¹²⁷

The members acknowledged that monitoring the provision and effectiveness of such counselling may prove difficult. Members also questioned whether arguments that families need 'balancing' could be maintained given that nature provides a 'natural balance of males

¹²⁵ *ibid* para 39.

¹²⁶ *ibid* para 44.

¹²⁷ *ibid* para 40.

and females’.¹²⁸

Secondly, several concerns relating to sex-selection were discussed, such as: the potential for discrimination and, in particular, increased gender stereotyping;¹²⁹ the potential for discrimination in the provision of treatment was noted, given that it was unlikely that the procedure would be funded by the NHS;¹³⁰ the fact that the technique could not guarantee a child of a particular sex which gave rise to concerns about children born as a result of the techniques who were not the ‘selected’ gender;¹³¹ and varying views were expressed on how UK policy in this area would impact upon other countries. In addition to this, it was noted that people seeking the procedure in other parts of the world would travel to the UK for it, were it permitted.¹³²

Sex-selection was discussed again at the HFEA meeting on 19th June 2003.¹³³ The Committee felt that it had three potential options at that point. Firstly, the HFEA could have delayed making a decision in relation to sex-selection until the results of the, (then on-going), United States Food and Drug Administration trial, (carried out by the Genetics and IVF Institute in Virginia), into ‘Microsort’ Sperm sorting were known. This research was considering the safety of a type of sperm sorting known as flow cytometry, which involved adding dye to sperm samples in order to differentiate between sperm carrying X and Y chromosomes. The HFEA chose not to wait for these results as the trial was likely to last at least another year. Waiting for this period of time would not ‘give due weight to the public consultation or the

¹²⁸ *ibid.*

¹²⁹ *ibid* paras 40-41.

¹³⁰ *ibid* para 43.

¹³¹ *ibid* para 41.

¹³² *ibid* para 42.

¹³³ HFEA, ‘Minutes of the Authority Committee Meeting’ (held at the Royal Society of Medicine) 19 June 2003.

necessity to publish a report from it'.¹³⁴

The second option was to recommend that, following wider debate, Parliament should make a decision on the issue. However, the HFEA decided against this approach because the Minister for Public Health had asked the HFEA to advise her as to public policy on sex-selection and it had been the HFEA that had obtained the public opinion research on the issue.¹³⁵

The final option was for the HFEA to regulate sex-selection and to consider whether to permit the procedure for medical reasons only. The minutes of the meeting record that '[t]o differing degrees the members believed that this was the best option in the circumstances'.¹³⁶ The Committee felt that regulation would enable data and information to be collated in relation to the procedure which would assist in several areas, including: future decision-making on this issue; research into the welfare of the child; and research into family dynamics.¹³⁷ It decided to recommend permitting and regulating sex-selection, but limiting this to selection for medical reasons 'in light of the negative public perception of sex selection'.¹³⁸ Therefore, the Committee ultimately acceded to the conclusions of the 2003 report, which had recommended that the procedure be permitted only for medical reasons. The reasoning adopted in the report

¹³⁴ *ibid* para 22.

¹³⁵ *ibid* para 23.

¹³⁶ *ibid* para 24.

¹³⁷ *ibid*.

¹³⁸ *ibid* para 28. There were further brief mentions of sex-selection during the meetings in February 2004, November 2006 and January 2007. The issue was mentioned at the meeting on 18th February 2004 in that it was explained that the House of Commons Science and Technology Select Committee had launched its review, (see: HFEA, 'Minutes of the 139th Open Authority Committee Meeting' (held at the Royal College of Obstetricians and Gynaecologists) 18 February 2004, para 7 <www.hfea.gov.uk/docs/AM_Minutes_Feb04.pdf> accessed on 1st March 2014). Issues relating to sex-selection being provided in other jurisdictions, namely Cyprus, were discussed at the meetings in November 2006 and January 2007. It was reported that the media had suggested that centres had been taking couples to Cyprus to perform sex-selection for social reasons, (a procedure which was unlawful in Cyprus), and that the Chief Executive of the HFEA had therefore written to the centres for comment, (see: HFEA, 'Minutes of the Non-Confidential Authority Meeting' 29 November 2006, paras 5.0-5.1 <www.hfea.gov.uk/docs/AM_minutes_Nov06.pdf> accessed on 1st March 2014). The Chief Executive had also written to the Ministry of Health in Cyprus about the allegations. The Ministry of Health was aware of the reports but was unable to inform the Chief Executive of the extent to which they had been investigated, (see: HFEA, 'Minutes of the Non-Confidential Authority Meeting' 10th January 2007, para 5.6 <www.hfea.gov.uk/docs/AM_Minutes_Jan07.pdf> accessed on 1st March 2014).

will therefore be analyzed in greater detail in the next chapter.

(e) A Time for Change: House of Commons Science and Technology Committee's Review

(i) The Committee's Review

On 24th October 2003 the House of Commons Science and Technology Committee announced that it would conduct a review of the HFE Act 1990.¹³⁹ The inquiry's terms of reference were announced on 30th March 2004,¹⁴⁰ one of which was to consider 'the challenges to the Human Fertilisation and Embryology Act 1990 from a) the development of new technologies for research and treatment, and their ethical and societal implications and b) recent changes in ethical and societal attitudes'.¹⁴¹

The Department of Health announced its review of the 1990 Act on 21st January 2004. It stated that it would be looking to the Science and Technology Committee's inquiry to inform its review.¹⁴² During the evidence sessions for the inquiry, the Department of Health gave evidence that the inquiry was timely and helpful¹⁴³ and that its review would take full account

¹³⁹ Press Release No 45, Session 2002-2003, no longer on the website <www.parliament.uk> but is noted on the website at — 'Select Committee on Science and Technology Fifth Report' (24 March 2005) <<http://www.publications.parliament.uk/pa/cm200405/cmselect/cmsctech/7/703.htm>> accessed on 29 August 2013.

¹⁴⁰ Science and Technology Select Committee, *Human Reproductive Technologies and the Law 5th Report* (HC 2004-05, 7-I), 3, para 2.

¹⁴¹ *ibid* 4. As an initial step, there was an eight week public online consultation into human reproductive technologies and the law, (5). As part of the inquiry, there were: 12 evidence sessions; UK visits to the assisted conception unit at Guy's and St Thomas' Hospital, the Assisted Reproduction and Gynaecology Centre in London and the Medical Research Council's National Institute for Medical Research, in order to discuss stem cell research; visits to Stockholm, Rome and the Vatican, which were undertaken in order to acquire a better understanding of the different approaches to the permissibility of sex-selection taken by Sweden and Italy; and a number of meetings, including meetings with members of the British Medical Association's Medical Ethics Committee and Baroness Warnock, (4, para 5).

¹⁴² *Human Reproductive Technologies and the Law 5th Report I* (n 140) 3, para 2.

¹⁴³ *Human Reproductive Technologies and the Law 5th Report II* (n 83) Written Evidence, Appendix 1, para 2.

of the Committee's work and its report.¹⁴⁴

In March 2005, the Science and Technology Select Committee published its report, *Human Reproductive Technologies and the Law*. It was recognised that there are wide ranging views on the issues contained in the consultation in our 'multi-faith and largely secular' society. The approach recommended by the Committee was that consensus should be achieved as far as possible. However, the Committee expressed the need for caution when using and relying on public attitude surveys.¹⁴⁵

The Committee divided non-medical reasons for seeking sex-selection into three categories:

- a) To have a family that includes children of both sexes (known as 'family balancing');
- b) To rebuild a family after the death of a child with another of the same sex; and
- c) To fulfil a general preference for children of one sex over another. This could be related to economic, cultural or social reasons.¹⁴⁶

This was a more complex division of non-medical reasons than any other produced throughout the debates. Firstly, it recognised the Masterton-type scenario, where a child of a particular sex had been lost through death. It couched this in terms of family *rebuilding*, as distinct from family *balancing*. This was the first time that this concept had been recognised in any of the consultations or reports. Secondly, it departed from the HFEA's terminology of 'personal' reasons, (representing family balancing), and 'social/cultural/economic' reasons, (representing all other non-medical reasons). By replacing the label 'personal' reasons with 'to have a family which includes children of both sexes', greatly clarified matters. There was

¹⁴⁴ *ibid* Appendix 1, Annex B.

¹⁴⁵ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 155, para 358.

¹⁴⁶ *ibid* 61, para 133.

no longer a need to read into, or question, what was meant by ‘personal’ reasons, nor to restrict what was ‘personal’, to family balancing.¹⁴⁷ The Committee provided a clear, yet flexible, definition of family balancing. Further, other reasons for sex-selection were no longer restricted to the HFEA’s heading of ‘social/cultural/economic’. The new definition of all other such reasons was termed ‘general preference’, which could include social, cultural and economic reasons, but was not restricted to it.

It considered as the objections to sex-selection for non-medical reasons: demographic impacts; international consequences; psychosocial implications; ethical considerations; and sex discrimination.¹⁴⁸

The Committee’s reasoning, like the HFEA’s, appears to have been based to a large extent on the principles of harm and precaution. However, whilst it accepted that harms could give rise to a legitimate prohibition of the procedure, it reasoned that there should first be evidence of these harms.¹⁴⁹ It recommended that greater analysis and research of the issue be completed than the HFEA had attempted before the introduction of new legislation.¹⁵⁰ It interpreted the principle of precaution in a different manner to the HFEA. It was of the view that precaution could be satisfied through tight oversight and regulation, rather than prohibition.¹⁵¹ Consequently, it concluded that ‘we find no adequate justification for prohibiting the use of sex-selection for family balancing’.¹⁵²

¹⁴⁷ Holm pointed to a number of problems with the interpretation of the HFEA’s distinctions in Holm, ‘Like a Frog’ (n 98) 33-34.

¹⁴⁸ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 61, para 134.

¹⁴⁹ *ibid* 64, para 140.

¹⁵⁰ *ibid* 64, para 142 and 179, recommendation 30.

¹⁵¹ *ibid* 22, para 47.

¹⁵² *ibid* 64, para 142 and 179, recommendation 30.

(ii) The Government's Response

The Government published its response to the Committee's recommendations in relation to sex-selection for non-medical reasons in August 2005.¹⁵³ The Government disagreed with the Committee's report, in particular its interpretation of the precautionary principle.¹⁵⁴ It stated that it had no plans to alter the position laid down in the HFEA Codes of Practice, (which did not allow the selection of embryos of a particular sex for 'social' reasons). The Government stated that it would seek the views of the wider public on the use and regulation of PGD.¹⁵⁵ It claimed that it was aware of public concerns surrounding sex-selection for social reasons but it would, nevertheless, endeavour to establish wider public views on the permissibility of sex-selection for family balancing purposes.¹⁵⁶ Thus, it treated 'social' reasons as distinct from family balancing and it appears that it considered that family balancing may be less objectionable than other 'social' reasons.

(f) The Government's Review

At the HFEA's annual conference on 21st January 2004, the Parliamentary Under Secretary for Public Health announced that the Government would be reviewing the HFE Act 1990.¹⁵⁷

¹⁵³ Department of Health, *Human Reproductive Technologies and the Law: Government Response to the Report from the House of Commons Science and Technology Committee* (Cm 6641, 2005).

¹⁵⁴ *ibid* 7, para 7.

¹⁵⁵ *ibid* 18, para 44.

¹⁵⁶ *ibid* 19, para 45.

¹⁵⁷ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 136, para 304. The Government stated that the review was desirable in light of: new reproductive technologies and procedures; the 'profound' ethical issues surrounding the procedures; changes in public perception; and international developments, see *Human Reproductive Technologies and the Law: Government Response* (n 153) 4.

(i) Consultation

On 16th August 2005 it began a public consultation as part of this review.¹⁵⁸ It looked at many of the recommendations contained in the Select Committee report.¹⁵⁹ It sought views on whether the law should be updated and specifically invited views on:

sex selection for non-medical reasons. In particular, should this be banned? Or should people be allowed to use sex selection techniques for family balancing purposes as the Science and Technology Committee suggest? If so, how many children of one gender should a couple already have before being allowed to use sex selection techniques to try for a child of the other gender?¹⁶⁰

Therefore, the Committee's distinction between family *balancing* and family *rebuilding* was abandoned.

The consultation received 535 formal responses, consisting of responses from around 100 stakeholder groups and organisations, and also from individual professional experts, patients and the public.¹⁶¹ The Department of Health commissioned People Science & Policy Ltd (PSP) to conduct an analysis of the responses in December 2005.¹⁶² Arguments both for and against were expressed. Those against sex-selection recited arguments relating to: discrimination; potential harms to individuals and families; public policy fears, including that

¹⁵⁸ The consultation was entitled Department of Health, *Review of the Human Fertilisation and Embryology Act: A Public Consultation* (2005).

¹⁵⁹ Ted Webb, 'Department of Health Review of the HFE Act' (16 August 2005) *Bionews* 321 <http://www.bionews.org.uk/page_37817.asp> accessed on 26 August 2013.

¹⁶⁰ *Review of the Human Fertilisation and Embryology Act: A Public Consultation* (n 158) 44, para 5.32.

¹⁶¹ Department of Health, *Review of the Human Fertilisation and Embryology Act: Proposals for Revised Legislation (including Establishment of the Regulatory Authority for Tissue and Embryos)* (White Paper, Cm 6989, 2006), 3, para 1.10.

¹⁶² People Science & Policy Ltd, *Report on the Consultation on the Review of the Human Fertilisation & Embryology Act 1990*, (Prepared for the Department of Health March 2006)

<www.peoplescienceandpolicy.com/downloads/FINAL_HFEA_reportDH.pdf> accessed on 27 August 2013.

we should make a stand against what is allegedly happening in other countries such as India and China; and religion.¹⁶³

On the whole, those in support of sex-selection based their views on the rights of individuals and families. Certain participants felt that children were already born the “wrong” sex and were then “unwanted”. Some saw sex-selection as a form of family planning. Concerns were expressed that its non-availability here was forcing people abroad and also that legal bans may be unenforceable. Some felt that their own views against sex-selection should not be forced upon other people. In relation to family balancing, some supported sex-selection being used after the first child. Others felt that it should only be used after having two or three children of the same sex.¹⁶⁴

A number of groups and organisations stated that their contributors had not been able to reach a consensus.¹⁶⁵ Certain groups and organisations split the implementation of sex-selection into ‘family balancing’ and sex-selection for ‘societal preferences’, many of these groups could not reach a consensus as to their permissibility.¹⁶⁶

(ii) White Paper

These findings formed the basis of the White Paper, *Review of the Human Fertilisation and Embryology Act: Proposals for revised legislation*, published in December 2006. This contained the Government’s recommendations for reform of the 1990 Act.¹⁶⁷ In reaching its conclusions, the Government claimed that it had taken account of the recommendations contained in the 2005 report of the Science and Technology Committee. In addition, it had

¹⁶³ *ibid* 39-41, para 5.6.

¹⁶⁴ *ibid*.

¹⁶⁵ *ibid* 39, para 5.6.

¹⁶⁶ *ibid* 40, para 5.6.

¹⁶⁷ *Review of the Human Fertilisation and Embryology Act: Proposals for Revised Legislation* (n 161) V.

taken into account other reviews, evidence, surveys and Government-commissioned reports, which had culminated in the Department of Health's public consultation at the end of 2005.¹⁶⁸

The White paper referred specifically to the Science and Technology Select Committee's recommendation that 'there was insufficient evidence to justify a ban on 'family balancing', where a family already has a number of children of one gender'.¹⁶⁹ Nevertheless, the Government proposed that sex-selection for non-medical reasons, including for family balancing, be prohibited.¹⁷⁰ There appear to have been two main justifications for this. Firstly, the strength of public opinion; it was noted that the HFEA's 2002-03 public consultation, including a MORI poll, had found 'strong opposition' to sex-selection for non-medical reasons.¹⁷¹ The problems with relying on public opinion will be discussed in the next chapter. Secondly, the proposal took into account the possible effects 'including internationally' on cultures that display a preference for male children.¹⁷² The use of the words *including* internationally implies that they were also looking at the effects on such cultures domestically, within the UK. This was not explored further in the White Paper.¹⁷³

(iii) Human Tissue and Embryos (Draft) Bill and HFE Act 2008

The Government presented the White Paper to Parliament and the proposals formed the basis of the Draft Bill, then entitled the Human Tissue and Embryos (Draft) Bill, which contained an explicit ban on sex-selection for non-medical reasons, (as set out in Appendix A). Sex-selection was limited to selection for the prevention of medical conditions that were linked to sex chromosomes such as a strong family history of breast cancer. The stringency of this

¹⁶⁸ *ibid* 2, para 1.5.

¹⁶⁹ *ibid* 15, para 2.47.

¹⁷⁰ *ibid* 32.

¹⁷¹ *ibid* 15, para 2.45.

¹⁷² *ibid*, para 2.47.

¹⁷³ However, the arguments relating to son preference will be explored in greater detail in chapters 6 and 7.

prohibition was then further cemented by para 1ZC (3), which provided that:

- (3) Regulations under this paragraph may not enable the authorisation of-
 - (a) the testing of embryos for the purpose of establishing their sex, or
 - (b) other practices falling within paragraph 1ZB(1), except on grounds relating to the health of any resulting child.

Thus, no regulation could circumvent the ban on sex-selection for non-medical reasons. This raises the question of how those seeking sex-selection for non-medical reasons are supposed to challenge the prohibition in the event that they manage to satisfy the extremely high burden placed upon them by showing the existence of demonstrable benefits of the procedure in their particular case.¹⁷⁴

The Bill was published on 17th May 2007 for pre-legislative scrutiny by a Joint Committee comprised of the House of Lords and House of Commons.¹⁷⁵ It debated the proposals and found that the reasons against sex-selection for non-medical reasons were cited to be: sex discrimination; potential harms to individuals or families; public policy concerns; and religious arguments.¹⁷⁶

In August 2007 it published its report, which proposed the final form of the Bill to be put before Parliament. It found that ‘the majority’ of witnesses favoured a restriction on sex-

¹⁷⁴ The HFEA, in its 2003 report *Sex Selection: Options for Regulation*, concluded that, in order for a prohibition on sex-selection for non-medical reasons to be successfully challenged, demonstrable benefits of the procedure would need to be shown, see *Options for Regulation* (n 75) 36, para 147. This will be discussed further in the next chapter.

¹⁷⁵ Joint Committee on the Human Tissue and Embryos (Draft) Bill, *Human Tissue and Embryos (Draft) Bill* (2006-07, HL 169-I, HC 630-I), 7.

¹⁷⁶ *ibid* 107, paras 16-19.

selection, that it be used only for medical reasons,¹⁷⁷ but the Committee acknowledged that the arguments surrounding sex-selection were finely balanced.¹⁷⁸ The Committee's report also considered the weight placed upon public opinion during the lead up to the proposed Bill. After having outlined the studies carried out by the HFEA (2002),¹⁷⁹ it expressed concern about the lack of evidence provided to support claims made about public opinion in order to bolster certain views.¹⁸⁰ It recommended that the Government commission independent research into general public opinion on scientific and ethical developments in reproductive technologies and bioethics generally.¹⁸¹ Nevertheless, the Committee still made a firm decision to ban sex-selection for non-medical reasons on the basis that the task of Parliament was to reach a decision based upon the evidence before it.¹⁸²

(iv) Parliamentary Debates

Throughout the progression of the Bill through Parliament,¹⁸³ very little was mentioned about sex-selection for non-medical reasons and the proposed Bill was not challenged in this regard. The reasons behind this are best understood by considering the wider Parliamentary debates on the Bill at that time. Firstly, as set out above, at the time at which the Bill was placed before Parliament, the White Paper had already made it clear that the procedure should be

¹⁷⁷ *ibid* 56, para 202. The Committee had heard oral evidence from 46 witnesses, including individuals, experts and those representing interested organisations. A discussion forum was held with 11 organisations representing ethical perspectives. The Committee had welcomed written evidence on, amongst other matters, respondent's views on para 3 of Schedule 2, which set out the circumstances in which embryo testing and sex-selection would be permitted, (88, para 10). Overall, they received 115 submissions of written evidence and more than 100 other submissions, (8). An online consultation was also conducted, (105, para 1). A total of 40 comments were received, (107, para 13). 39 out of the 40 agreed that sex-selection for family balancing purposes should be prohibited, (107, para 14). One argued against the ban on the basis that the onus to prove harm should rest with those trying to impose the ban, (107, para 15).

¹⁷⁸ *ibid* 56, para 205.

¹⁷⁹ *ibid* 13, para 17.

¹⁸⁰ 'Where organisations claim to speak on behalf of the public, they should have a proper research basis to do so that is capable of scrutiny', *ibid* 15, para 22.

¹⁸¹ *ibid* 15, para 23.

¹⁸² *ibid* 16, para 27.

¹⁸³ In November 2007 the Human Fertilisation and Embryology Bill was introduced into the House of Lords. In February 2008 the Bill was passed in the House of Lords. In May 2008 the Bill progressed through the House of Commons Committee Stage. In October 2008 the Bill returned to the House of Lords. All of the amendments made by the House of Commons were passed unchanged.

prohibited. Further, the Joint Committee had scrutinized the Bill following the 2006 White Paper and had also concluded that the procedure should be banned. Therefore, the Bill presented before Parliament already contained the prohibition.

Secondly, there were many contentious and controversial areas of the Bill that needed to be prioritized over issues such as sex-selection for non-medical reasons. The focus of the debates was on the issues relating to: saviour siblings; research involving embryos, in particular human admixed embryos; and the need for a father. In addition to this, the debates also considered other issues, such as: the recognition of same-sex couples as legal parents to children born as a result of donated gametes or embryos; whether the restrictions on patient data collected by the HFEA should be relaxed to facilitate follow-up research; and even abortion time-limits. These areas consumed much of the time allocated to the debates.

A significant proportion of Parliamentary time was dedicated to saviour siblings. One of the key questions for Parliament was whether the creation of a saviour sibling was only justified where the existing child was suffering from a ‘life-threatening’ condition, or whether it was sufficient that the condition was considered to be ‘serious’. The meaning of the word ‘serious’ occupied much of Parliament’s time on this issue as concerns had been expressed about the difficulty in defining the word in this context. Ultimately, it was decided that ‘serious’ conditions should justify the creation of a saviour sibling. Parliament also debated whether saviour sibling creation should be restricted to scenarios in which no invasive procedures were intended to be performed on the resulting child, in other words, where only cord blood was intended to be used.¹⁸⁴ Parliament voted against such a restriction¹⁸⁵.

¹⁸⁴ For example, Lord Alton proposed an amendment to the Bill which would amount to a ban on saviour siblings for anything other than umbilical cord blood and he was also in favour of the procedure only being available in the context of life-threatening illnesses because ‘other tissue’ could include whole organs and ‘serious’ conditions could mean a multitude of illnesses, including for example, autism, (see HL Deb 4 Dec

In relation to embryo research, the debates focused on several areas of concern. Perhaps the two most contentious areas concerned the moral status of human admixed embryos and the potential benefits of research involving embryos. In relation to the former, concerns were voiced in Parliament about the moral status and definition of admixed or ‘hybrid’ embryos. Arguments were raised by a minority of members that the public may feel uneasy about embryos being created using a combination of human and animal material.¹⁸⁶ In relation to the benefits of embryo research, whilst the general consensus in Parliament was that such research would potentially result in profound therapeutic benefits, certain members of Parliament questioned whether such benefits would actually materialize and whether, therefore, the research was justified.¹⁸⁷ The debates on embryo research appeared to centre around the conflict between, on the one hand, wanting to help to cure suffering and disease and, on the other, wanting to preserve the ‘special’ significance that is often attached to human life in the form of embryos.¹⁸⁸ These questions were, at times, complex and time-consuming. The Bill amended the HFE Act so that regulation of the creation, use and storage of human admixed embryos is carried out by the HFEA.¹⁸⁹

The issue in relation to the need for a father was whether doctors should have to consider the need of a resulting child for a father as part of the s. 13(5) HFE Act welfare test or whether consideration of the need for ‘supportive parenting’ would suffice. Parliament ultimately

2007, vol 696, col 1649). Lord Lloyd expressed similar sentiments, (HL Deb 21 Jan 2008, vol 698, col 11).

¹⁸⁵ The current law relating to saviour siblings is set out in chapter 5. Saviour siblings are also discussed further in this chapter below.

¹⁸⁶ For example, see Earl Howe, HL Deb 3 December 2007, vol 696, cols 1532, 1537 and 1556.

¹⁸⁷ For example, see the arguments at HL Deb 3 December 2007, vol 696, cols 1520-23 and 1529.

¹⁸⁸ This was summarized by Dr Pugh when he stated that the debates on embryo research were ‘a case of balancing hope and fear. On the one hand, there is the hope that some day, terrible inheritable and cellular diseases will be conquered, and on the other hand, there is the fear that an increasingly casual approach to human life will denature our society and create possibilities that we would not wish. That balance is being played out in nearly every Member’s head’, HC Deb 22 October 2008, vol 481, col 340.

¹⁸⁹ The current law on research involving embryos can be found at sections 3, 11, 15 and schedule 2 sec 3 of the HFE Act.

voted in favour of the latter. This issue tied in with the issues surrounding the status of same-sex parents of children born as a result of donated gametes and whether both parents should be legally recognised as the ‘parents’ of the resulting child or children. Again, these were difficult and time-consuming issues. Parliament was having to grapple with social changes to the structure and make-up of the ‘family’ that had occurred, and were occurring, and how best to deal with them.

In addition to debating all of these areas, the issue of abortion was raised. A number of amendments were suggested to the Abortion Act 1967 at the Report Stage of the Bill. They included: extending the Act to Northern Ireland; removing the need for authorization of abortion by two doctors; permitting performance of abortions by certain nurses and other medical practitioners; increasing the locations where abortions can take place; and in relation to emergency contraception, removing conscientious objection. These questions had the potential to generate an enormous amount of debate and, in order to consider them properly, would have required a lot more time than Parliament had allocated to the Bill. Unsurprisingly, they were not considered in further detail at this stage as there was insufficient time.¹⁹⁰

There are several examples of both the House of Lords and the House of Commons feeling that they did not have sufficient time to debate all of the issues fully.¹⁹¹ Therefore, they would have been unlikely to have had enough time to debate sex-selection in any detail. Against this background, it appeared that the members of Parliament were, generally, glad that the Bill had already ruled the procedure out:

¹⁹⁰ See: HC Deb 22 October 2008, vol 481, col 324 onwards.

¹⁹¹ ‘The Secretary of State talks about providing the opportunity to consider these important ethical issues, but is it sufficient opportunity when we are given barely three hours to consider the issue of human admixed embryos and barely three hours to consider saviour siblings and the need for a father, as well as all the other schedule 2 matters? Surely that brings Parliament into disrepute, when people outside want us to consider these vital issues clearly and carefully’, (at HC Deb 12 May 2008, vol 475, col 1066). Also see: HL Deb 21 November 2007, vol 696, col 843; HC Deb 22 October 2008, vol 481, col 381; and HC Deb 12 May 2008, vol 475, col 1153.

We sometimes have to accept the practicalities and accept that the sheer pressure of business, not only on bioethical issues but on the many issues that come across people's desks, means that it will not always be possible to set up ad hoc committees to consider incredibly important questions. Moreover, Bills do not often come before your Lordships' House on these issues. We last looked at human fertilisation and embryology in 1990. I might say in parenthesis that I am glad that a joint scrutiny committee examined the Bill before it came here and came out against such issues as sex selection, which the noble Baroness, Lady Williams, identified as one of the fragile questions that we may well return to in due course and which is not included in the Bill.¹⁹²

Thirdly, there was a feeling that the areas of reproductive technology and research should not move too quickly too soon, as they involved numerous complicated issues that needed proper consideration.¹⁹³ There were two main inter-linked reasons for this (amongst others). The first reason was that Parliament was fearful of damaging the relationship that the public had with science. In particular, this was debated in relation to the controversial topic of human admixed embryos. It was feared by some that a lack of clarity as to the definition or meaning of an admixed embryo (referred initially during the debates as an 'inter-species' embryo) had the potential to damage 'the social contract between society and science'.¹⁹⁴ It was argued that this relationship could be easily damaged and that this should be a cause of great concern.¹⁹⁵ It was stressed that there was a:

¹⁹² HL Deb 28 January 2008, vol 698, col 498.

¹⁹³ HL Deb 19 November 2007, vol 696, cols 676 and 689; and HL Deb 21 November 2007, vol 696, col 843: 'As technology accelerates, we are more rapidly faced with increasingly complicated and potentially costly, even lethal, problems and being asked to decide on them very swiftly'.

¹⁹⁴ HL Deb 15 January 2008, vol 697, col 1193.

¹⁹⁵ *ibid.*

need to maintain public confidence in scientific research and in support for scientific research... we are in a delicate situation in which public confidence could be lost quite rapidly. There are already considerable concerns. Anyone who reads the red-topped tabloids will know how extensive those concerns are and the extent to which scientific results are characterised in a way that is possibly partly intended to frighten people. Consequently, if there is no sense that Parliament and other bodies that represent the public are in close touch with what is going on, it will be relatively easy to lose that essential confidence. In this country we have not done so, so far. However, as we proceed with more and more unusual scientific discoveries and research, that danger grows, month by month.¹⁹⁶

A point to note here is that the MPs were very aware that the debates and issues relating to reproductive technologies and research were being reported and commented upon by the media. There are several explicit mentions of this in Parliament during the debates.¹⁹⁷ Further, there are references in the debates to specific MPs being inundated with letters and comments from members of the public on the issues relating to the Bill.¹⁹⁸ Therefore, they were generally very aware of the potential impact of the Bill upon society.

The second reason concerned the symbolic value of the law, which was recognised and discussed during the debates. Many felt that Parliament needed to be wary of the message that the law was sending out to the general public. This was discussed mostly in relation to the requirement to consider the need for a father. Baroness Deech stated that:

¹⁹⁶ HL Deb 28 January 2008, vol 698, col 480.

¹⁹⁷ For example, see: HL Deb 19 November 2007, vol 696, col 680; HL Deb 3 December 2007, vol 696, cols 1554 and 1582; HL Deb 21 January 2008, vol 698, cols 41 and 108; and HC Deb 19 May 2008, vol 476, col 52.

¹⁹⁸ For references to the House of Lords see: Lord Elton at HL Deb 3 December 2007, vol 696 col 1498; and Baroness O'Cathian at HL Deb 4 February 2008, vol 698, col 878. In relation to the House of Commons see: Ms Dari Taylor at HC Deb 12 May 2008, vol 475, col 1093.

...I think that the principle in law is very important, almost regardless of what has happened in practice. To remove the need for parents sends an unfortunate signal.¹⁹⁹

This sentiment was also echoed in the House of Commons on several occasions. For example, it was argued that:

If society desires responsible fatherhood—which we do—the most detrimental act would be to send the male population the message that they do not matter.²⁰⁰

It is symbolically right for the House to reiterate fathers' importance in the family.²⁰¹

Therefore, Parliament was very aware that public confidence in reproductive technologies and research in related areas was easily shaken. This, combined with the fact that the provisions contained within the Bill were likely to carry a symbolic social significance, meant that Parliament was reluctant to push for the legalisation of procedures that appeared to be socially unacceptable. In light of the results of the public opinion research carried out into the acceptability of sex-selection for non-medical reasons, these two factors arguably provide another reason as to why Parliament did not see it as appropriate to consider the permissibility of the procedure further at that point in time.

Fourthly, the ethos of the Bill appears to have been built around saving lives and easing the pain of people who were suffering from diseases. It was stated by Dr Brian Iddon in the House of Commons that the Bill 'gives hope for future generations of people who might

¹⁹⁹ HL Deb 21 January 2008, vol 698, col 61.

²⁰⁰ HC Deb 12 May 2008, vol 475, col 1109.

²⁰¹ *ibid* col 1136.

suffer from... devastating diseases, and it holds out hope, too, for the millions who suffer from diabetes and heart disease, and for those who damage their spines, usually in accidents.²⁰² Dawn Primarolo stated that the provisions of the Bill had a 'potentially profound impact', not only for the scientific community and researchers, but for patients and the wider public.²⁰³ The terrible impact and consequences of such conditions were described and discussed on numerous occasions throughout the debates. For example, the horrors of Parkinson's Disease²⁰⁴ and Alzheimer's disease for the sufferer and their family were spoken about,²⁰⁵ as well as the suffering associated with conditions such as muscular dystrophy and cystic fibrosis.²⁰⁶ Lord Winston made the point that:

...mostly, if you have a genetic disease, you live with it, you suffer from it and you die from it; and you die from it, normally, while you are still a child. Most children with genetic diseases do not survive into adulthood or even into teenage years, the exceptions perhaps being muscular dystrophy and cystic fibrosis and a few others. Most of them are so serious that children die after appalling suffering...²⁰⁷

The Parliamentary debates were focused on considering methods of alleviating the suffering associated with such conditions and saving the lives of those suffering from them. There are two main examples of this. The first was embryo research. There was a lot of support in both Houses for this type of research on the ground that it may provide therapeutic benefits in the

²⁰² *ibid* col 1104.

²⁰³ She went on to set out that: 'One in seven couples needs help with fertility treatment; 350,000 people in this country live with Alzheimer's; every week, five children are born with, and three young people die from, cystic fibrosis. All those issues, and the potential for treatments, this Bill addresses', HC Deb 22 October 2008, vol 481, col 324.

²⁰⁴ HC Deb 12 May 2008, vol 475, col 1086.

²⁰⁵ *ibid* col 1141.

²⁰⁶ HL Deb 10 December 2007, vol 697, col 17.

²⁰⁷ *ibid*. This discussion related to gene therapy.

future.²⁰⁸ The second was saviour sibling creation. Again, there was a lot of support for this procedure being available, and available where the condition from which the existing child was suffering was ‘serious’ as opposed to it having to be ‘life-threatening’. This, again, was largely on the basis that Parliament was focused on alleviating needless suffering and premature deaths.²⁰⁹ This ethos contextualizes the reluctance to consider the permissibility of sex-selection for non-medical reasons during the debates. Sex-selection for non-medical reasons did not fall into the category of alleviating the physical pain and suffering which certain diseases give rise to, nor did it fall into the category of saving lives. This is arguably another reason why Parliament did not see fit to debate the issue at greater length at this stage.

Finally, there was a lot of political and religious unrest surrounding the Bill. Even within parties MPs were refusing to fall in with a ‘general’ party position. There were calls for a free vote from all sides of the House of Commons. The media reported that there was pressure for a free vote from Catholic Priests and MPs.²¹⁰ The fact that the press had reported on this pressure was also noted during the debates, which demonstrates that MPs were very aware of it.²¹¹ The issues contained within the Bill concerned conscience and many MPs wanted to vote according to their individual beliefs and consciences. There were, however, some MPs who were unhappy with the way in which certain influential religious figures had sought to influence the debates.²¹² This highlights just how contentious the Bill was. Labour MPs were

²⁰⁸ See for example: HC Deb 12 May 2008, vol 475, cols 1076 and 1086; HC Deb 19 May 2008, vol 476, col 88; and HL Deb 10 December 2007, vol 697, col 17 onwards.

²⁰⁹ For example, see the speeches of: Dr Harris at HC Deb 12 May 2008, vol 475, cols 1139-1140; Lord Walton at HL Deb 4 December 2007, vol 696, col 1661; Baroness Royall at HL Deb 4 December 2007, vol 696, col 1666; and Lord Winston at HL Deb 21 January 2008, vol 698, col 27.

²¹⁰ Clare Murphy, ‘Catholic Pressure on Fertility Bill’ (11 March 2008) *BBC News* <<http://news.bbc.co.uk/1/hi/health/7289786.stm>> accessed on 9th March 2014

²¹¹ HC Deb 19 May 2008, vol 476, col 29.

²¹² For example, see: James Randerson, ‘MPs set to Back New Embryo Research Laws, (12 May 2008) *The Guardian* <www.theguardian.com/science/2008/may/12/medicalresearch.law> accessed on 4 February 2014: ‘Many MPs are appalled by the way senior Catholic figures have tried to influence the debate. Martin Salter, Labour MP for Reading West, felt the comments of Cardinal Keith O’Brien in his Easter sermon which likened the hybrid embryo proposals to “research of Frankenstein proportions” were offensive.’

allowed free votes in relation to the parts of the Bill which concerned: the permissibility of saviour siblings; the creation and use of admixed embryos for the purpose of research; and the provision of fertility treatment to single women and lesbians. Both the Conservative and Liberal Democrat MPs were reportedly allowed free votes on all parts of the Bill.²¹³ MPs had many complex, controversial and difficult issues to contend with during the passage of the Bill through Parliament. It is against this background that sex-selection for non-medical reasons was seen, very much, as an issue for the future and was hardly mentioned during the debates.²¹⁴

The Human Fertilisation and Embryology Act 2008 received Royal Assent in November 2008.²¹⁵ It has amended Schedule 2 of the 1990 Act in largely the same terms as the Human Tissue and Embryos (Draft) Bill had proposed, with a few minor differences, (as set out in Appendix A). In general, the Act leaves a broad discretion to the HFEA in many areas.²¹⁶ However, in relation to sex-selection, this is not so. The blanket ban on sex-selection for non-medical reasons is a strict one. The wording of the new Act leaves very little room for manoeuvre or legal challenge.

(g) Conclusions

The prohibition of sex-selection for non-medical reasons enshrined in the HFE Act 2008 was

²¹³ — — ‘Embryology Laws Pass First Hurdle’, 12 May 2008 *BBC News*

<http://news.bbc.co.uk/1/hi/uk_politics/7394591.stm> accessed on 28th February 2014.

²¹⁴ ‘We last looked at human fertilisation and embryology in 1990. I might say in parenthesis that I am glad that a joint scrutiny committee examined the Bill before it came here and came out against such issues as sex selection, which the noble Baroness, Lady Williams, identified as one of the fragile questions that we may well return to in due course and which is not included in the Bill...’, HL Deb 28 January 2008, vol 471, col 496.

²¹⁵ Its provisions came into force in a staggered manner. Part 2 of the Act took effect on 6th April 2009; the amendments to the 1990 legislation took effect in October 2009; and the remaining provisions came into force in April 2010.

²¹⁶ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 140, para 315.

the culmination of years of debate. This chapter has demonstrated that at least four key elements were present in these debates. Firstly, the ban was based upon a number of objections which generally focussed on potential harms to individuals and/or families; public policy; sex discrimination; and religion. Secondly, the debates on the permissibility of the procedure were structured around the purported reasons for its use. Thirdly, at almost every stage of the debates, attempts were made to elicit public opinion. The findings of the public opinion research were then discussed and used in order to bolster arguments for prohibition. Finally, the principles of harm and precaution featured in the latter stages of the debates. In particular, the HFEA's 2002-2003 consultation, the 2005 Science and Technology Committee's report and the Government's response discussed the principles at length. The legitimacy of basing the prohibition on the first and second elements will be considered in chapter 4, where it will be argued that they do not provide a convincing justification for the ban. The significance of the third and fourth elements will be examined in greater detail in the next chapter.

CHAPTER 3

THE PRINCIPLES OF HARM AND PRECAUTION: THE HFEA; THE SELECT COMMITTEE; AND THE GOVERNMENT

Chapter 2 has shown that the ban on sex-selection for non-medical reasons appears to have centred round four main themes: the first two concerned objections to, and the reasons for using, sex-selection; the third was public opinion; and the final concerned the principles of harm and precaution. The latter two themes will be considered in this chapter, whilst the two former will form part of chapter 4.

This chapter will analyse certain sections of the history to the 2008 Act examined in the previous chapter in greater detail. The aim of this is to show that the reasoning which formed part of the basis of the prohibition is flawed. This will be done in the following stages. The HFEA's 2002-2003 review will be considered first. It will be shown that the HFEA relied heavily upon public opinion and the harm principle in order to justify the recommended prohibition. This approach, it will be argued, is deficient in a number of ways: primarily, the alleged harms do not actually amount to harms at all, either according to Joel Feinberg's definition; the Children Act 1989 definition; or the 2008 Act's own definition; and secondly, even if they did, the HFEA acknowledges that there is virtually no evidence that these 'harms' would actually materialise. The HFEA attempts to circumvent the need for evidential certainty in two principal ways: firstly, by asserting that the strength of alleged public opposition to the procedure is sufficient to override the need for substantiating evidence, (which will be shown to be an illegitimate approach for a number of reasons); and secondly, through employing an incredibly strict interpretation of the principle of precaution. The second review to be considered will be that of the House of Commons Science and

Technology Committee. The Committee's less stringent interpretation of the precautionary principle will be set out, as will the adverse reaction that it provoked. Finally, this chapter will set out the Government's response to this, which was to adopt an interpretation of precaution which was much more akin to that of the HFEA.

(a) The HFEA's Review

On the day that the report, *Sex Selection: Options for Regulation*, was published, the HFEA issued a press release providing an apparent insight into the reasoning behind the prohibition. It stated that:

The HFEA has had to balance the potential benefit of any technique against the potential harm. We are not persuaded that the likely benefits of permitting sex selection for social reasons are strong enough to outweigh the possible harm that might be done.²¹⁷

This suggests that the HFEA's reasoning was based upon a balancing exercise of potential harms and potential benefits. It leads us to believe that the recommendation to continue the prohibition was attributable to the HFEA having established the following: firstly, that there were likely benefits of the procedure; secondly, that there were potential harms; thirdly, that they knew what these benefits and harms were; and fourthly, the weight that should be attached to each of the benefits and harms in conducting the balancing exercise. The fourth element would require the HFEA to have substantiated each likely benefit and potential harm with evidence sufficient to establish: the likelihood of its occurrence; the subject of the likely

²¹⁷ HFEA, 'HFEA Announces Recommendations on Sex Selection' (*HFEA Press Release* 12 November 2003) <www.hfea.gov.uk/803.html> accessed on 27 August 2013.

benefit or potential harm; and the impact that the harm or benefit would have on individuals and society, both in the short and long term. Without having established these elements, the HFEA's balancing exercise would have been artificial. In this respect, the statement is misleading and it masks the actual reasoning upon which the decision was based.

Firstly, the HFEA's conclusions were based, to some degree, on the precautionary principle. This can clearly be seen from the following passage: 'Whilst it is not clear that the practice of sex selection would always be incompatible with the welfare of the child born as a result there is clearly ample reason to be cautious'.²¹⁸ The HFEA's application of this principle will be considered further below.

Secondly, whilst the HFEA acknowledged all of the perspectives on sex-selection that the consultation had revealed and recognised the concerns raised,²¹⁹ the fundamental basis of their decision seems to have rested on two elements: public opinion and the risk of serious harms.

(i) Public Opinion

In relation to the first element, public opinion, the HFEA concluded that the consultation had revealed a general consensus against sex-selection for personal reasons, including 'family balancing'.²²⁰ It asserted that its survey of public opinion using a sample of individuals had been representative of the general public.²²¹ However, there are several reasons to doubt this assertion.

The public opinion research relied upon in the report stretched back as far as the Warnock

²¹⁸ *Options for Regulation* (n 75) 35, para 141.

²¹⁹ *ibid* 33, para 133. In particular, it recognised the serious issues raised by objections based on sex discrimination and sex ratio imbalances, (34, paras 136 and 138).

²²⁰ *ibid* Chair's Forward.

²²¹ *ibid*.

report.²²² It also cited the 1993 and 1999 consultations,²²³ as well as its own research. At first sight, it appears to have drawn evidence from a wide range of reliable and representative sources. However, on closer inspection, the perception of public opinion to which these sources give rise is not only unrepresentative, but may also be unreliable.

In relation to the 1993 consultation, the HFEA's report sets out the fact that 93% of respondents were opposed to sex-selection for non-medical reasons.²²⁴ However, it omits to mention that of the 65 million (or so) citizens whom this result purportedly represents, only 165 actually responded. Therefore, the opposition by 93% of respondents amounted to around 0.0003% of the general population. This is not representative of the general population as, not only did respondents constitute such a miniscule proportion of the population, they were also self-selected and, therefore, consisted largely of those with a vested interest in sex-selection.

The report summarised the outcome of the 1999 consultation by stating that '[i]n accordance with the majority of responses to the consultation the Joint Working Party confirmed the HFEA's approach to licensing PGD, recommending that "PGD should only be available where there is a significant risk of a serious genetic condition being present in the embryo"''.²²⁵ It failed to go into any further details about the results of this consultation, for example, that it only received 171 responses, which again, constituted about 0.0003% of the general population.

There are four problems with the 2003 consultation, (as well as the earlier consultations which it cited). Firstly, where research seeks to elicit the state of public opinion on any given issue,

²²² *ibid* 4, para 4.

²²³ *ibid* 7, paras 9-11.

²²⁴ *ibid* 7, para 9.

²²⁵ *ibid* 7, para 11.

there is a wealth of literature that stresses the importance of participants being representative of the general public or of those groups that are affected by that issue. If the participants lack representativeness, it defeats the object of the research, because the gathered information may represent a distorted image of general public opinion.²²⁶ The consultations produced so few responses that it casts doubt upon how representative they are.²²⁷ The HFEA itself recognised that ‘it is virtually impossible to assess the number of people represented by these responses’.²²⁸

The second problem relates to the types of respondents that the consultations attracted. The HFEA opened the door to pressure groups and made it easier for them to express their, often extreme, views in a way that afforded them maximum impact.²²⁹ The consultation was sent out to 248 organisations inviting comment. In direct contrast to this approach, the general public were required to contact the HFEA in order to obtain a hard copy of the consultation document, or to download it from the website. This inevitably made it more onerous for the general public to comment on the issue, especially given that the document was not drawn to their attention unless they were already sufficiently involved with the HFEA to know about

²²⁶ There is a lot of literature on this issue, which spans many different fields. Examples include: Ned J Crosby, Janet M Kelly, and Paul Schaefer, ‘Citizens Panels: A New Approach to Citizen Participation’ (1986) 46 *Public Administration Review* 170, 171 and 174-175; Gerad Middendorf and Lawrence Busch, ‘Inquiry for the Public Good: Democratic Participation in Agricultural Research’ (1997) 14 *Agriculture and Human Values* 45, 46-47 and 49-51; Thomas Webler, “‘Right’ Discourse in Citizen Participation: An Evaluative Yardstick’, in Ortwin Renn, Thomas Webler, and Peter Wiedemann (eds), *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse* (Kluwer Academic 1995) 35-86; Sherry R Arnstein, ‘A Ladder of Citizen Participation’ (1969) 35(4) *Journal of the American Planning Association* 216.

²²⁷ John Harris, ‘No Sex Selection Please, We’re British’ (2005) 31 *Journal of Medical Ethics* 286, 286.

²²⁸ *Options for Regulation* (n 75) 16, para 56.

²²⁹ ‘It would... have been more honest to state that the purpose is “to seek the views of pressure and interest groups,” “to seek the views of the public among which we can pick and choose,” or perhaps even more honestly “to conduct a politically necessary, but rather meaningless, public relations exercise,” in Holm, ‘Like a Frog’ (n 98) 28. Fishkin makes the point that opinion polls that invite self-selected participants, as opposed to randomly selected participants, will inevitably attract those with a vested interest in the issue. It is difficult to interpret the degree to which these participants, who are small in number when compared to the general population, but generally have stronger views on the issue concerned, can represent the general public, in James S Fishkin, *The Voice of the People: Public Opinion and Democracy* (Yale University Press 1995) 35.

their website and happen to be perusing it in order to come across the document.²³⁰ Further, the way in which responses were counted by the HFEA provided a channel through which pressure groups could operate. The HFEA clearly states in its report that: '[W]here a number of identical responses were received from different individuals, possibly using scripts provided by campaigning organisations these have been counted separately'.²³¹

This may well have opened the door to the influence of pressure groups, forcefully advancing their own views through the guise of individual 'citizens', thus adding weight to the argument that the results may not have been as representative as the HFEA claimed. The report provided no explanation as to why the responses were counted in this manner, instead of counting such responses as one response.

The third problem is that the results, no matter how representative, need to be treated with caution because they may more accurately be described as a 'reaction' rather than a response. This is because respondents may have been motivated by the "yuck" factor rather than informed reasoning.²³² Studies have revealed that most people know very little, and have thought very little, about public policy issues. Where participants are asked about their views in relation to such issues, in particular where they are required to give 'off the cuff' responses, they usually oblige even where they are provided with options such as 'don't know' or 'haven't thought much about the question'. Fishkin and others have referred to such responses

²³⁰ Scully and others found that consultations often 'draw on limited constituencies, and there is uncertainty about the forms of consultation best suited to enabling the lay public to effectively contribute their views.' Jackie L Scully, Thomas Shakespeare and Sarah Banks, 'Gift Not Commodity? Lay People Deliberating Social Sex Selection' (2006) 28 *Sociology of Health and Illness* 749, 750. Fishkin and others make the point that it can be difficult to recruit a representative sample of participants as some groups are hard to locate or unwilling to be interviewed, in James S Fishkin, Robert C Luskin and Roger Jowell, 'Deliberative Polling and Public Consultation' (2000) 53 *Parliamentary Affairs* 657, 657.

²³¹ *Options for Regulation* (n 75) 16, para 56.

²³² 'A further reason for caution is the culture-bound nature of popular intuitions... And so advocates of SSS [social sex-selection] argue that it is simple unfamiliarity with the idea of choosing sex of children that makes people think it is wrong,' in Scully (n 230).

as ‘manufactured’. In their study on deliberative polling – a method of opinion gathering which allows for thought, information-providing and deliberation between participants and their wider pool of associates – they found that ‘on the spot’ responses are usually very different to those that participants would have developed had they been given information about the issues and time to think about and discuss the issues with others.²³³

No attempt was made to distinguish the opinions of those going through IVF with those who have never been through this procedure. There is evidence of significant differences of opinion between these two groups.²³⁴ A 2005 study by Jain and others revealed that 40.8% of the respondents to their study, (all of whom were infertility patients), wanted to select the sex of their next child. Of these respondents, 45.9% had no living children at present and 48.4% had living children who were all of one sex. 41% disclosed that they would use PGD to achieve their objective.²³⁵ It could be argued that the opinions of those who have never been

²³³ Fishkin, ‘Deliberative Polling’ (n 230) 657-659. P. Converse has termed these sorts of responses by participants as ‘non-attitudes’ and has argued that such an approach is common where participants are invited to give opinions on matters that they have not thought about, or even where they are asked about fabricated scenarios that they could not possibly have an opinion on, Philip E. Converse, ‘Attitudes and Non-Attitudes: Continuation of a Dialogue’, in Edward R Tufte (ed), *The Quantitative Analysis of Social Problems* (Addison-Wesley Sage Publications 1970). In the context of public opinions on healthcare, studies have revealed that a qualitative approach to consultation can be much more representative and valid. A study by Bowie and others sought to elicit public opinion on health services. They created 8 health panels across Somerset, each comprised of 12 local people representing, as far as possible, a cross-section of the population in terms of sex, age and background. They found that the group approach enabled participants to explore issues with each other in depth, to consider and clarify their own positions, and to view the issue from the perspective of others, Cameron Bowie, Ann Richardson and Wendy Sykes, ‘Consulting the Public about Health Service Priorities’ (1995) 311 *British Medical Journal* 1155, 1155-1157. Conversely, participants in public opinion surveys and focus groups are not usually provided with the resources and information that they need in order to make reasoned decisions. Rowe and Frewer argue that this may lead to their responses reflecting ‘biases and misunderstandings.’ Gene Rowe and Lynn J. Frewer, ‘Public Participation Methods: a Framework for Evaluation’ (2002) 25(1) *Science, Technology and Human Value* 3, 21.

²³⁴ Evidence was given during the 2005 Science and Technology Committee’s Inquiry that: ‘A questionnaire circulated to thousands of past patients, donors and other contacts and also published on the Bridge website reveals an extraordinary strength of feeling... Over 80% of all respondents believe that Parental Choice and Family Balancing should be exercisable in therapeutic situations, in families of three or more children of the same sex and in cases such as the Mastertons,’ *Human Reproductive Technologies and the Law 5th Report II* (n 83) Written Evidence, Appendix 43, Ev 330. McMohan argues that those actually seeking sex-selection are likely to be very different to random section of the community. She concludes that more research is needed in this area, in Catherine A McMohan, ‘Community Concerns about Sex Selection: Research as a Way Forward – Response to Edgar Dahl’s ‘The Presumption in Favour of Liberty’’ (2004) 8 *Reproductive Biomedicine Online* 272, 273 <<http://www.ncbi.nlm.nih.gov/pubmed/15038893>> accessed on 26 August 2013.

²³⁵ Tarun Jain, Stacey A Missmer, Raina S Gupta, Mark D Hornstein, ‘Preimplantation Sex Selection Demand

through the procedure may be less considered than those who have or are going through fertility treatment. There are arguments on both sides. Perhaps those who are personally familiar with fertility treatments through being on the receiving end possess not only a special interest in it, but also a special insight. They are not only more informed about the issues that surround it, but also possess an empathy that others cannot. This could indicate that there is less chance of instinctive and ill-informed opinions being expressed through ignorance and the “yuck” factor. However, it could also be argued that people going through IVF may lack objectivity, so their opinions may actually be less valid than those looking at the issue from the ‘outside’. But ultimately, whichever side we take, there appears to be a gulf between the opinions of those who have experienced fertility treatment and those who have not. The HFEA did not attribute this distinction any weight. They neglected to even consider it.

A very important point to note in this regard is that at certain points during the debates, most obviously during the 1993 and 1999 consultations, there was no attempt to provide a definition of non-medical reasons and, as a result, the word ‘social’ often replaced ‘non-medical’ and the two appear to have been used interchangeably. It was not until the 2002 consultation that social reasons were placed as a sub-category of non-medical reasons, as opposed to all non-medical reasons being automatically social. The HFEA acknowledged during the 2002 consultation that non-medical reasons can be broken down into a number of different areas. However, at no point has there been a definition of what qualities or origins a reason must have to be deemed social as opposed to falling within another category of non-medical reason. It is fair to say that the meaning of social in this context is open to interpretation, as is the difference between social reasons and other, general, non-medical reasons. This is very significant in terms of public opinion. The HFEA relies upon both the

and Preferences in an Infertility Population’ (2005) 83 *Fertility and Sterility* 649.

1993 and 1999 consultations to bolster its claims about the strength of public opposition to sex-selection for non-medical reasons. Both of these consultations gathered responses from consultees in relation to their views on ‘social’ reasons for sex-selection. But what does ‘social’ mean? Even after considering the consultations in detail it is difficult to establish with any certainty. How could the consultees have been sure about its meaning? The answer is that they may not have been. If the consultees were unsure as to the meaning of the most pivotal part of the question that they were being asked, their responses would not have been based on informed judgment, as judgment cannot be informed where understanding of a key element is deficient. Their responses must have been based upon something else. This something else may well have been a gut reaction, the “yuck” factor.

The fourth issue which casts doubt upon the validity of the results is the manner in which the questions were asked. Had the questions been posed in a different manner, they could have elicited a different response. Schulman provides the following example, (albeit in the context of sperm sorting as opposed to PGD),

Imagine that an effective medical method for processing a husband’s spermatozoa has been developed which could weight the odds in favour of having a girl or boy when a married couple plan to have a child – particularly a second or third child when they already have a majority of offspring of the other gender (family balancing). Assume further that this method would be made available under a doctor’s supervision, and would involve processing the husband’s semen in a laboratory followed by simple insemination of the wife in the physician’s office. Assume further that each couple would pay with their own funds to utilize such a service. Whether or not you personally might consider using such a technology in your own family, do you believe that such a medical service

should be prohibited by law to every citizen in the UK?²³⁶

The use of such an ‘example’ based approach to questions may well have produced different results to the types of questions employed by the HFEA.

In relation to the qualitative Counterpoint research, which attempted specifically to elicit the views of Asian participants as distinct from others,²³⁷ it may be that the use of focus groups was not the best way to approach the matter. Culley and Hudson have argued that problems may occur because of the participant’s perceptions about the identity and presentation of the researcher.²³⁸ It is likely that the Asian group were suspicious of the researcher. They demonstrated apparent ambivalence towards authority, but also, arguably, a feeling of operating outside of this official authority.²³⁹ It is likely that they perceived the researcher as being a limb of this ‘authority’, as they were aware that the researcher was asking questions for the purposes of an official government body.²⁴⁰ They may not, therefore, have felt able to be completely open about their opinions.

In addition to these four criticisms of the way in which public opinion was gathered, there is also a concern that the extent of opposition has subsequently been exaggerated. The MORI results revealed that 69% of those interviewed disagreed with the proposition that ‘[a]ny prospective parent should have the right to choose the sex of their child’.²⁴¹ When this is

²³⁶ Joseph D Schulman, ‘An Attempted Suppression of Liberty’ (2004) 8 *Reproductive Biomedicine Online* 374, 374 <<http://www.ncbi.nlm.nih.gov/pubmed/15149557>> accessed on 26 August 2013.

²³⁷ Counter Point, *Sex Selection – Policy and Regulatory Review* (n 113) 37. The findings are presented in chapter 6.

²³⁸ Lorraine Culley and Nicky Hudson, ‘Using Focus Groups with Minority Ethnic Communities: Researching Infertility in British South Asian Communities’ (2002) 17(1) *Qualitative Health Research* 102, 102-103.

²³⁹ They expressed the view that if someone wanted a child of a particular sex badly enough, ‘then there will always be a way to find someone who can provide what they want’, Counter Point, *Sex Selection – Policy and Regulatory Review* (n 113) 37.

²⁴⁰ Albeit the HFEA is an ‘independent’ body.

²⁴¹ MORI, *Sex Selection – Public Consultation* (n 115) Q 3.

combined with the fact that only 52 per cent of interviewees actually viewed sex-selection as an important issue,²⁴² the results appear to be somewhat short of the ‘great majority of the public’ being ‘strongly opposed’ to sex-selection for non-medical reasons²⁴³. The results, admittedly, show that a majority of the respondents are opposed to the procedure, but they tell us little about the strength of their opposition. What we do know is that around half of those interviewed, far from holding strong views or beliefs about the issue, did not even consider the matter to be important.

It must be acknowledged that the HFEA’s approach to public consultation has changed since 2003. It is now a Cabinet Office requirement that public consultation be carried out in relation to any proposed significant policy change. The Cabinet Office guidance includes suggestions that: the consultation process and the reasons for the consultation should be transparent; the full range of affected stakeholders should be considered; the information disseminated and provided as part of the consultation should be easily accessible to all stakeholders; and more informal methods of eliciting views should be considered, rather than always reverting to a written consultation.²⁴⁴ There have been a number of HFEA public consultations since the 2002-2003 consultation on sex-selection. Three examples will be discussed below. This first example is the 2007 *Hybrids and Chimeras* consultation. This aimed to create and inform public debate on the social and ethical implications of creating and using admixed embryos in research.²⁴⁵ The second example is the 2011-2012 consultation *Donating Sperm and Eggs: Have Your Say*. This sought to engage the public in debate on the issues surrounding donated gamete use in fertility treatment.²⁴⁶ The final example is the *Mitochondria Public*

²⁴² *Options for Regulation* (n 75) 14, para 44.

²⁴³ As asserted at ibid 36, para 147.

²⁴⁴ Cabinet Office, *Consultation Principles: Guidance* (n 3) 2-3.

²⁴⁵ HFEA, *Hybrids and Chimeras: A Report on the Findings of the Consultation*, (October 2007)

<www.hfea.gov.uk/docs/Hybrids_Report.pdf> accessed on 15th January 2013.

²⁴⁶ HFEA, *Donating Sperm and Eggs: Have Your Say* (14th August 2012) <www.hfea.gov.uk/5605.html>

Consultation, which ran from September – December 2012. This consultation sought public opinion on the permissibility of the emerging techniques designed to avoid mitochondrial disease.²⁴⁷ In line with the Guidance, these more recent consultations appear to have addressed the above concerns in several respects.²⁴⁸

Firstly, the results of recent consultations have been presented in a more transparent manner. The 2012 *Mitochondria Public Consultation* provides two examples of this. Firstly, for each method of public opinion research,²⁴⁹ the HFEA provided a table setting out a summary of: the number of participants; types of participants; the manner in which they were selected; and their level of knowledge in relation to the issues.²⁵⁰ This transparent approach can also be seen in the consultation on *Hybrids and Chimeras*. The consultation results revealed how many of the participants of the electronic voting following the public meeting classed themselves as: (a) a member of the public; (b) a scientist or an academic; or (c) a representative from an organization with an interest in this area.²⁵¹ Secondly, the *Mitochondria Public Consultation* was clear about the fact that the open consultation element of the research was not intended to provide a representative picture of public opinion, but rather to highlight the ‘range of views held by respondents as well as the arguments underpinning these views’.²⁵² This reduces the risk of the results being unfairly interpreted as

accessed on 15th January 2014.

²⁴⁷ HFEA, *Mitochondria Public Consultation*, (28th March 2013) <www.hfea.gov.uk/6896.html> accessed on 2nd January 2014.

²⁴⁸ The way in which public opinion was gathered in relation toaviour siblings is another example of how the HFEA have been able to elicit public opinion in a more reliable manner. This will be discussed further in chapter 5.

²⁴⁹ The methods employed were: an open consultation questionnaire; open consultation meetings; deliberative public workshops; a public representative survey; and a patient focus group.

²⁵⁰ Office for Public Management, *Medical Frontiers: Debating Mitochondria Replacement: Annex I Summary of Evidence*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013), 4 <www.hfea.gov.uk/docs/Mito-Annex_I_-summary_of_evidence.pdf> accessed on 2nd January 2014.

²⁵¹ HFEA, *Hybrids and Chimeras: A Report on the Findings of the Consultation*, (October 2007), Appendix G unnumbered <www.hfea.gov.uk/docs/Hybrids_Report.pdf> accessed on 15th January 2013.

²⁵² Dialogue by Design, *Medical Frontiers: Debating Mitochondria Replacement: Annex IV Summary of the 2012 Open Consultation Questionnaire*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013), 4 <www.hfea.gov.uk/docs/Mito-Annex_IV-questionnaire_report.pdf> accessed on 2nd January

reflecting a representative overview of public opposition or support.

Secondly, recent consultations have made use of deliberative workshops. The deliberative workshops used as part of the *Mitochondria Public Consultation* provided participants with information and aimed to develop the knowledge and understanding of participants. The aim of this was to ‘help them to develop informed opinions towards the social and ethical issues relating to the new techniques’.²⁵³ Information was provided in the form of expert speakers, videos and handouts.²⁵⁴ Participants also took part in a biology quiz aimed at developing their knowledge.²⁵⁵ The deliberative work undertaken as part of the 2007 *Hybrid and Chimeras* consultation provides further evidence of this much more positive approach²⁵⁶. Experts provided participants with information about the issues, which stimulated debate and interest.²⁵⁷ There was a recognition of the fact that ‘whilst some members of the public initially reacted with disgust, after hearing more information and discussing the issues with others, their opinion often shifted significantly’.²⁵⁸ This is a huge improvement from the deliberative work undertaken as part of the consultation on sex-selection, during which participants were provided with very little scientific information or expert knowledge.²⁵⁹

Thirdly, case studies were used as part of the *Mitochondria* consultation deliberative workshops. For example, parents ‘Martin and Jane’ were the subjects of one case study. Participants were told that the couple already had a child with mitochondrial disease and that

2014.

²⁵³ Office for Public Management, *Medical Frontiers: Debating Mitochondria Replacement: Annex I* (n 250) 10.

²⁵⁴ Office for Public Management, *Medical Frontiers: Debating Mitochondria Replacement: Annex II Deliberative Public Workshops*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013), 3, 11, 35 <www.hfea.gov.uk/docs/Mito-Annex_II-public_deliberative_workshops.pdf> accessed on 2nd January 2014.

²⁵⁵ *ibid* 10.

²⁵⁶ HFEA, *Hybrids and Chimeras: A Report on the Findings of the Consultation* (n 245).

²⁵⁷ *ibid*, para 5.8.

²⁵⁸ *ibid*, para 6.6.

²⁵⁹ See: Counter Point, *Sex Selection – Policy and Regulatory Review* (n 112). This will be discussed further in chapter 5.

there was a dispute between them as to whether they should use the techniques in order to produce another child who would not suffer from mitochondrial disease. Participants engaged in a discussion as to what Martin and/or Jane should do in this scenario and why.²⁶⁰ Case studies such as these are an important way in which to engage participants in meaningful debate as it makes it easier for them to contextualize the issues and understand the ‘human’ element of the questions.

Finally, a patient focus group was held as part of the *Mitochondria* consultation. This provided an environment in which those personally affected by the issues, (such as parents of children suffering from mitochondrial disease), could discuss their views in detail.²⁶¹ Ultimately, the HFEA recognized that there were differences between those who were personally affected and those who were not.²⁶² The 2011 consultation *Donating Sperm and Eggs: Have Your Say* is another example of this. In addition to the online consultation, the HFEA sought the views of patients, parents, donors and donor-conceived people.²⁶³ This is a very important step forward, as it represents an acknowledgement that there are potential differences between the views of those who are affected by infertility or are otherwise involved in, or are born as a result of, the process and the need to elicit the views of these groups.

Therefore, the HFEA has largely addressed the concerns in relation to the methods of eliciting public opinion during public consultations. Were the consultation on sex-selection repeated in the future, it is unlikely that the same criticisms could be levelled at the HFEA.

²⁶⁰ Office for Public Management, *Medical Frontiers: Debating Mitochondria Replacement: Annex II* (n 254) 22.

²⁶¹ Office for Public Management, *Medical Frontiers: Debating Mitochondria Replacement: Annex VI Patient Focus Group*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013), 4 <www.hfea.gov.uk/docs/Mito-Annex_VI-patient_focus_group.pdf> accessed on 2nd January 2014.

²⁶² Office for Public Management, *Medical Frontiers: Debating Mitochondria Replacement: Annex I* (n 250) 8.

²⁶³ HFEA, *Donating Sperm and Eggs: Have Your Say* (n 246).

(ii) Harm

The second element upon which the HFEA's reasoning was based focussed on the potential for serious harms:²⁶⁴

‘... the decision to have children... is an area of private life in which people are generally best left to make their own choices and in which the state should intervene only to prevent the occurrence of serious harms, and only where this intervention is non-intrusive and is likely to be effective.’²⁶⁵

This is a re-statement of the presumption in favour of liberty and the harm principle,²⁶⁶ in which the state's only justification for interfering with a person's choices is to prevent harm to others, and under which the burden of proof is on those seeking to exercise the control. The HFEA acknowledged that this argument requires the presence of *serious* harms, as opposed to mere harms, before the state may legitimately intervene. Further, the principle includes two additional requirements for legitimate interference: that any intervention should be, not only effective, but also non-intrusive.

In relation to the first limb of this principle, the HFEA defined the *serious harms* upon which it relied to justify the restriction on selection for non-medical reasons as the risk of harm to

²⁶⁴ Rosalind McDougall, ‘Acting Parentally: An Argument Against Sex Selection’ (2005) 31 *Journal of Medical Ethics* 601, 601.

²⁶⁵ The HFEA stated this to be, ‘The main argument against prohibiting sex selection for non-medical reasons’ *Options for Regulation* (n 75) 34, para 132.

²⁶⁶ *ibid.* Harris terms this the ‘democratic’ or ‘liberal’ presumption, in Harris, ‘Sex Selection and Regulated Hatred’ (n 49) 292. Also, Robertson discusses harm, as a potential justification for prohibiting the use of certain reproductive technologies, from the perspective of reproductive liberty and choice. He argues that, ‘procreative liberty requires a high standard for determining when harmful consequences justify overriding reproductive choice. The question in each case is whether the harm is severe enough to override the presumptive right to procreate...’, in John A Robertson, *Children of Choice: Freedom and the New Reproductive Technologies* (Princeton University Press 1994) 153.

the welfare of future children and families,

In our view the most persuasive arguments for restricting access to sex selection technologies, beside the potential health risks involved, are related to the welfare of the children and families concerned. There was considerable alarm amongst consultation respondents that children selected for their sex alone may be in some way psychologically damaged by the knowledge that they had been selected in this way as embryos. Some consultation respondents expressed concerns that such children would be treated prejudicially by their parents and that parents would try to mould them to fulfil their (the parents') expectations. Others saw a potential for existing children in the family to be neglected by their parents at the expense of sex-selected children.²⁶⁷

It is questionable whether these alleged harms actually constitute *harm* at all, let alone *serious* harm. The leading definition of harm provided by Feinberg, discussed above, divides the concept into five parts. I will take each one in turn. The first element requires that there be an act.²⁶⁸ According to this passage, the alleged harmful act could be either: (a) the selection of the embryo; (b) the prejudicial treatment of the child which develops from the embryo, after birth; or (c) the neglect of other children of the family. I will take the act to be (a) selection of the embryo, as this is what the HFEA explicitly sought to prohibit in relation to sex-selection for non-medical reasons. Both (b) and (c), when displayed in an extreme form, are dealt with by other statutes.²⁶⁹ (b) and (c) are better understood as potential consequences of act (a), which fall within the second element of harm.

The second element of harm requires that the manner of acting is 'defective or faulty in

²⁶⁷ *Options for Regulation* (n 75) 34, para 139.

²⁶⁸ Feinberg, *The Moral Limits of the Criminal Law* (n 22) 105-106.

²⁶⁹ The most notable statute being the Children Act 1989.

respect to the risks it creates to *B*, that is, with the intervention of producing the consequences for *B* that follow, or similarly adverse ones, or with negligence or recklessness in respect of those consequences'.²⁷⁰ Therefore, there must be consequences of the act. The HFEA's passage states the consequences to be (b) and (c) above, as well as psychological damage to a resulting child arising from the knowledge that its parents selected it, when it was in embryonic form, on the basis of its sex alone. Further, the actor must either intend that these consequences occur, or at the very least be reckless or negligent as to their occurrence. It is highly unlikely that individuals or couples undergoing sex-selection for non-medical reasons would do so with the express intention of producing a child so that they could treat it prejudicially or so that they could neglect their other children, (although an argument to the contrary will be considered below). The question of whether such parents could be said to act in a reckless or negligent manner towards producing these consequences is slightly more difficult to answer. This would depend, very much, on the individual case. However, there are certain consistent strands that would occur through every instance of PGD: the medical procedure itself is very onerous in that it is time-consuming and potentially risky for the patient; the procedure is emotionally demanding for the patient, as it involves a combination of IVF and PGD, both of which carry limited chances of success;²⁷¹ and finally, the procedure is very expensive.²⁷² Therefore, the risks of parents embarking on such a path recklessly or negligently are slight. Out of necessity,²⁷³ they are highly likely to have thought,

²⁷⁰ Feinberg, *The Moral Limits of the Criminal Law* (n 22).

²⁷¹ The physical demands and the emotional and financial costs of the procedure are well-documented. See for example: Robert G Lee and Derek Morgan, *Human Fertilisation and Embryology: Regulating the Reproductive Revolution* (Oxford University Press 2001), 34; Furuza Parikh, 'Sex-Selection by IVF: Detrimental to Indian Women' (1998) 6(2) *Indian Journal of Medical Ethics* 55.

²⁷² Only around 25% of IVF procedures are funded by the NHS. On average, one cycle of IVF in the UK costs between £3000 and £5000, see D Marcus, 'How Much does IVF Treatment Actually Cost?' (*IVF-Infertility.com* 6 July 2013) <www.ivf-infertility.com/ivf/standard/procedure/costs.php> accessed on 26 August 2013. PGD will increase the cost of the treatment by up to £2000, see — — 'Getting Pregnant and Fertility Tests: Pre-Implantation Genetic Diagnosis (PGD)' (*Getting Pregnant*) <www.gettingpregnant.co.uk/pgd.html> accessed on 26 August 2013.

²⁷³ Where any licensed fertility clinic is presented with a couple seeking IVF they are required to take the welfare of the resulting child and any existing children into account. Further, Robertson argues that the costs of the IVF and PGD procedures are likely to strongly limit the number of people undergoing them, in John A Robertson,

painstakingly, not only through the financial and medical implications of the procedure, but also the impact on any resulting child and on any existing children.²⁷⁴ In short, it is not a procedure that patients would embark upon lightly.

There is an argument that the traits which led the parents to undergo sex-selection for non-medical reasons are traits which make it much more likely that they will treat the resulting child prejudicially. The most notable example of such an argument is that parents may have higher expectations that their ‘boy’ should conform to their image of what a boy should be like.²⁷⁵ This may be detrimental to that child as it compromises its right to an open future.²⁷⁶ The argument is that although all parents invest in their children, those investing in risky, very expensive and physically onerous treatment in order to achieve that child will expect even more.²⁷⁷ I will answer this specifically in the context of Punjabi parents, as they form the basis of chapters 6 and 7 and, as chapter 6 will demonstrate, those of Indian origin would constitute a large proportion of those seeking sex-selection for non-medical reasons.²⁷⁸ Punjabi parents already generally heavily invest in their children, their boys more so than their girls, for reasons discussed in chapter 6. However, there is no evidence of the welfare of boys being

‘Ethics and the Future of Preimplantation Genetic Diagnosis’ (2005) 10 *Ethics, Law and Moral Philosophy of Reproductive Biomedicine* 97, 98.

²⁷⁴ A 2010 study by Sharp and others confirmed that patients seeking to use PGD for the sole purpose of selecting the sex of their child invest a great deal of thought into the implications of the procedure, outside of the emotional and physical demands. They appear to view the process as ethically complex and they, themselves, question the ethical propriety of it. They are frequently anxious about telling their families, in particular any existing children that they have, about their plans to use PGD to select sex. In Richard R Sharp, Michelle L McGowan, Jonathan A Verma, David C Landy, Sallie McAdoo, Sandra A Carson, Joe L Simpson, and Laurence B McCullough, ‘Moral Attitudes and Beliefs among Couples Pursuing PGD for Sex Selection’ (2010) 21 *Reproductive BioMedicine Online* 838 <<http://www.ncbi.nlm.nih.gov/pubmed/21051290>> accessed on 26 August 2013.

²⁷⁵ It is arguable that the desire to select the sex of an embryo for non-medical reasons represents a desire to control or pre-determine aspects of the resulting child’s life to an extent that may be detrimental to the child, see Michael J Sandel, *The Case against Perfection: Ethics in the Age of Genetic Engineering* (Belknap Press of the Harvard University Press 2007), ch 3.

²⁷⁶ Dena S Davis, ‘The Parental Investment Factor and the Child’s Right to an Open Future’ (2009) 39 *Hastings Centre Report* 24, 24-25.

²⁷⁷ ‘The more time, money and travel that a parent invests in directed procreation, and the more inconvenience, physical discomfort, and medical risk that the parent bears, the more I fear that the parent will feel entitled to the desired result’ *ibid* 26.

²⁷⁸ As was demonstrated in Peter Liu and Alan G Rose, ‘Social Aspects of >800 Couples Coming Forward for Gender Selection of their Children’ (1995) 10 *Human Reproduction* 968, 969.

harmful by this immense investment. In fact, it is likely that they achieve more academically and financially than they would have without the parental investment. For a Punjabi woman in the UK to be prepared to undergo sex-selection for non-medical reasons using PGD in order to produce a son, she will be part of a family which places exceptionally high value on sons. There is no question of it being worse to be born a boy rather than a girl in these families. Sons are far better off than daughters in terms of the love, attention and financial assistance that they receive in such families. It could be argued that these sons will be pressured by their parents to live up to their expectations of what a son should be like, especially given the immense investment that they would have made by pursuing sex-selection. However, this is unlikely to materialise to any greater degree following sex-selection, as opposed to natural reproduction, for several reasons. Firstly, amongst this section of the Punjabi community, sons are revered to such a high degree that parents are generally loathe to place social or behavioural restrictions upon them. This ‘freedom’ afforded to sons is actually at the heart of son preference. Sons are typically viewed as independent and powerful, whereas daughters are in need of protection and social restraint for their ‘own good’.²⁷⁹ Secondly, where parents in this section of the community do put pressure on their sons to conform to the Punjabi stereotype, this stereotype is in no way detrimental or restrictive to men or boys. Sons will inherit their parents’ wealth. They will be respected within the community primarily by virtue of their gender rather than their achievements. The stereotype imposes nothing but privileges upon sons. The only historic draw-back for sons was the expectation that they would look after their parents in old age. However, as chapter 6 demonstrates, even this is now beginning to disintegrate. Even in Punjab, regardless of the pressure and threats that parents may make, sons are beginning to break free from this obligation, yet son preference persists. In the UK, it is even less likely that sons will have to

²⁷⁹ Chapter 6 discusses this in greater detail.

bear the burden of their parents in old age. Yet, again, amongst certain parts of the community, son preference persists in a very strong form. Son preference, therefore, no longer appears to be a reciprocal social contract between parents and sons, (with parents favouring sons, then sons taking care of parents). Further, whilst son preference may have grown out of a vision of men being physically stronger and better warriors than women, Punjab's experience demonstrates that son preference is becoming increasingly detached from these sorts of considerations. As will be discussed in chapter 6, it has taken on an existence independent of this and has become an emotion. Punjabi parents are seeking sons for the sake of having sons, as a social emblem. It is tentatively hypothesised that the gender of the son is generally enough to fulfil this. The actions, character, interests and disposition of the son rarely detract from the achievement that these parents feel by virtue of producing a child who is male.²⁸⁰ Parents in Punjab, and especially in the UK, can no longer realistically expect their sons to fulfil the roles that traditionally gave rise to their heightened importance, yet strong son preference continues to exist amongst certain sections of the Punjabi community. In this respect, Punjabi parents seeking the procedure are different from those of British ethnicity. Therefore, it may be difficult to sustain an argument that their expectations of their son would stifle that son's development or 'right to an open future'²⁸¹ any more than a son born naturally into such family. This is because their gender is usually enough in itself for their parents. Their gender, and not necessarily any so-called gender attributes such as an interest in football or rugby, is what is sought by the parents.²⁸²

²⁸⁰ As is demonstrated by the evidence presented in chapter 6 of displays of extreme joy and celebration at the mere *birth* of a son, even where that son is not expected to achieve anything particular in his life. Such reactions are exceptionally rare in relation to the birth of a girl.

²⁸¹ Davis (n 276) 24-25.

²⁸² There could also be an argument that the procedure would result in a more general social disadvantage that families are creating sons who are spoilt by their parents to such a degree that they grow up to be extremely selfish, arrogant individuals. There are at least two responses to this. Firstly, there is no empirical evidence that this would actually happen. If certain resulting sons did grow up to be selfish and arrogant, it would surely not be so detrimental to society as to cause harm or even alarm to society, (given that there are already so many individuals in society who display these traits for a number of reasons). Secondly, even if it is accepted that it is likely to occur, this is something which already occurs in many families. It is not necessarily connected to the

The third element of harm requires that ‘acting in that manner is morally indefensible, that is, neither excusable nor justifiable’. The first point to note is that use of the words ‘neither...nor’ implies that, in order to be morally defensible, the act must be *either* excusable *or* justifiable and it is not necessary for the act to be both. The next task is to establish where the HFEA drew the line between an act of sex-selection which was excusable or justifiable and an act which was not. The line was drawn on the basis of the reason for which the selection was being carried out.²⁸³ Acts of selection carried out for medical reasons were deemed to be excusable and justifiable, whereas selection carried out for any non-medical reason fell below this line. The obvious question is why. Why did the HFEA see medical reasons as being excusable or justifiable? Sex-selection for medical reasons was already permitted, through the HFEA’s Codes of Practice, at this point.²⁸⁴ In light of this, the HFEA did not feel the need to re-look at that position.²⁸⁵ Nevertheless, the HFEA were considering whether the boundary should be moved in terms of what is morally defensible. The boundary appears to have been created and sustained on the basis of the benefits of selecting for sex in order to avoid passing on a serious genetic condition²⁸⁶ and public opinion. In relation to the former, the HFEA did not elaborate on the ‘benefits’ of such selection, nor did it look at the benefits that would arise

means of bringing children into existence. To undergo sex-selection via PGD these parents would already have a strong existing desire for a son, which may lead to spoiling the son. The sex-selection would not create this desire, it would already exist. Perhaps these parents would spoil their much sought-after son once he is born. However, if they have a propensity to spoil sons to this degree they would spoil any son born to them, regardless of the means of his creation. The answer is not to prohibit the creation of the child. This would mean vetting all potential Punjabi parents who display son preference before they decide to have a child through any means, ‘naturally’ or otherwise. (See Jackson on a similar point of vetting all parents: Emily Jackson, ‘Conception and the Irrelevance of the Welfare Principle’ (2002) 65(2) *The Modern Law Review* 176, 177). Any attempt to sustain such an argument would also mean that celebrities and the extremely wealthy would need to be vetted to ensure that they are able to raise their children without producing spoilt young adults. If not, the argument would require them to be prohibited from reproducing. This would be ridiculous.

²⁸³ Therefore, according to the HFEA, reasons for sex-selection are what make something morally defensible, (or not). This point will be discussed further in the next chapter.

²⁸⁴ This policy had been established after the 1993 consultation, see *Options for Regulation* (n 75) 2, para 12.

²⁸⁵ *ibid* 26, para 100.

²⁸⁶ *ibid*.

through selection for non-medical purposes,²⁸⁷ let alone compare the two. The HFEA advances no justification as to why medical reasons are excusable or justifiable, or why non-medical reasons are not. In relation to the latter, the HFEA cited the results from the 1993 and 1999 consultations,²⁸⁸ as well as the results from the 2002-2003 consultation in order to show that the weight of public opinion was against sex-selection for non-medical reasons, in contrast to the public's apparent acceptance of medical reasons as justifiable.²⁸⁹ The problems with this have been discussed above.

The fourth element of harm demands that '*A*'s action is the cause of a setback to *B*'s interests'.²⁹⁰ There are two requirements here. The first is that the interests of *B* will be setback. The second is causation. A preliminary point to note is the degree of setback required. It is insufficient to rely upon wounded feelings, depression, disgust, anxiety or frustration as a result of: a resulting child knowing that, as an embryo, it was selected for its sex alone; being treated prejudicially; or being neglected. The feelings must be so severe that they become incapacitating to such an extent that they impede an interest. In relation to the alleged harm of psychological damage occurring from the knowledge of being selected as an embryo on the basis of sex alone, this appears to be a little far-fetched.²⁹¹ Firstly, it is unlikely that parents would ever choose to have a child on the basis of sex *alone*. Parents have many reasons for choosing to undergo the process of IVF and PGD. Sex may be the main reason for

²⁸⁷ It was noted in the minutes of the HFEA Ethics Committee's meeting in May 2003 that the 'potential benefits of sex selection had not been fully brought out in the draft report, for example, the welfare of the child issue of preventing unwanted children,' see HFEA 'Ethics Committee's Meeting' (HFEA May 2003) <http://www.hfea.gov.uk/docs/ELC_minutes_may03.pdf> accessed 10 December 2011. Yet, nothing was done to subsequently rectify this.

²⁸⁸ *Options for Regulation* (n 75) 2, paras 9-11.

²⁸⁹ *Options for Regulation* (n 75) 12, para 38; 14, para 47; 24, paras 91-92; 25, paras 94-95; and 25, paras 96-97.

²⁹⁰ Feinberg, *The Moral Limits of the Criminal Law* (n 22) 105-106.

²⁹¹ '...the idea that... they [children born after having been selected on the basis of their gender] would be so unloved and treated so unacceptably badly that it would cause psychological damage is a piece of reckless speculation for which no evidence is produced and indeed no evidence could be produced.' Harris, 'Sex Selection and Regulated Hatred' (n 49) 293.

selection of an embryo, but it is unlikely to be the sole reason.²⁹² However, even if this were the case, a child gaining knowledge of this would need to be so psychologically affected by that knowledge that he or she developed a psychological problem of such severity that it incapacitated one of his or her interests. This would surely be an extreme case.

Returning to the question of interests, it must be established that *B* has interests that are capable of being set back. The primary question is, who is *B*? Let us first assume that *B* is the embryo that is selected as part of the act. Dealing firstly with welfare interests, at its highest, the embryo could claim that it has an interest in being able to continue its existence, (perhaps) in a tolerable environment, and physical health.²⁹³ The act of selecting the embryo as part of sex selection cannot be said to set back any of these three interests in any way. In fact, it is the act of selecting the embryo that ensures that these welfare interests are allowed to continue. If it were not for the positive act of selection, the embryo may not be selected by chance and would, therefore, be destroyed. Its interests in existence, existence in a tolerable environment and physical health, would all be destroyed completely.²⁹⁴ Selecting the embryo is the only way that its welfare interests can be maintained. It cannot, therefore, be argued that the act of selection causes a setback to the welfare interests of the embryo. In relation to ulterior interests, it is difficult to envisage that an embryo could possess such long term, ultimate aims, (as distinct from the welfare interests it needs to be able to develop the abilities to pursue any ultimate aims).

²⁹² *ibid.*

²⁹³ Feinberg attributes fetuses with a right to 'some opportunity for a tolerable life', which is actualized at birth, see Joel Feinberg, 'Wrongful Life and the Counterfactual Element in Harming' (1987) 4 *Social Philosophy and Policy* 145, 166. This may be applied to embryos in the same way, as it is difficult to argue that embryos should have any greater interests than fetuses, given that embryos are even further away from becoming a person than fetuses are.

²⁹⁴ Professor Robertson discusses a related idea in the context of prospective parents who may provide inadequate or incompetent child-rearing. He concludes that the risk of deficient child-rearing of a resulting child does not, on its own, justify restricting the parent's liberty to make use of artificial reproductive technologies. Part of his reasoning was that the alternative is non-existence, in John A Robertson, 'Procreative Liberty and Harm to Offspring in Assisted Reproduction' (2004b) 30 *American Journal of Law and Medicine* 7, 28-31. These ideas will be developed below.

However, this presupposes that *B* is the selected embryo. There are three alternative identities that *B* could assume. Firstly, *B* could include other children of the family. This clearly accords with the HFEA's intention, as it expressly includes 'existing children in the family' in the passage set out above. It is conceded that these children would have interests within the meaning of the fourth element of harm. This will be discussed in the context of causation below.

Secondly, *B* could also include the embryos that were not selected and, therefore, discarded. These embryos would, ultimately, be destroyed if not donated to another woman for implantation. Therefore, the act could cause a setting back of their welfare interests. This proposition is not sustainable on the basis of the HFEA's report. The HFEA's passage refers explicitly to 'children selected for their sex alone' and 'existing children of the family'. No mention is made of the discarded embryos. Further, given that surplus embryos are routinely discarded during standard IVF procedures, any claim that these embryos should be attributed interests is simply unsustainable.²⁹⁵ Therefore, *B* cannot represent the discarded embryos. I will not examine this argument further.

Finally, *B* could include the child into which the embryo eventually develops. At first sight, this is the interpretation adopted by the passage, as it refers to '*children* selected for their sex...'. However, there are problems with this interpretation. The main problem is trying to justify how the HFEA makes the jump from an embryo to a child. Despite the literal interpretation of the assertion '*children* selected for their sex...', the HFEA cannot be

²⁹⁵ However, it should be noted that some argue that the discarding of embryos as part of any form of reproductive technology is unethical and unjustifiable. This issue is discussed in John A Robertson, 'Assisting Reproduction, Choosing Genes, and the Scope of Reproductive Freedom' (2008) 76 *George Washington Law Review* 1490, 1495-1497.

suggesting that PGD involves the selection of a child. As a matter of scientific fact, PGD involves the selection of an *embryo* not a *child*.²⁹⁶ The passage is referring, then, to the child which develops from the embryo which is selected, pre-implantation, on the basis of its sex. By doing this, the HFEA is assuming that it is the interests of the *child*, (having developed from the selected embryo, into a foetus, then into a child on birth), rather than the *embryo* that we must consider. On this reading, the welfare and ulterior interests of a *child* must be taken into account, as opposed to the more limited interests of an *embryo*. It has been accepted throughout the debates on reproductive technologies²⁹⁷ that the embryo, whilst having a ‘special status’, should not be granted the same status as a person who has actually come into existence through having been born.²⁹⁸ Nevertheless, the HFEA provides no justification for how it has attributed an *embryo* with the moral status of a *child*.²⁹⁹

The second requirement of the fourth element of harm is that the act is the *cause* of the setback to *B*’s interests. I will not deal with any setbacks to the selected embryo’s interests in light of the arguments above. But the interests of any other children of the family need to be dealt with here. The act is the selection. The potential consequences are set out in the passage as being the neglect of other children of the family. According to the HFEA, the setting back of interests, (if any), arises out of this neglect. To illustrate this point, *A1* and *A2* have two female children, *C* and *D*. They decide to have another child using PGD to ensure that it is a

²⁹⁶ The distinction is all the more important in light of the fact that IVF procedures involved in PGD are not always successful in producing a child from an embryo.

²⁹⁷ As contained in the published consultations and other reports discussed in chapter 2.

²⁹⁸ Warnock Report (n 53) 63, para 11.17.

²⁹⁹ There is an argument that potential harms to future, (or ‘resulting’) children should legitimately form part of the discussion. Indeed, the chapters which follow will at times discuss potential harms and other alleged detriments in terms of the ‘resulting child’. This is necessary for several reasons. Firstly, much of the literature surrounding the topic blurs the distinction between child and embryo, so discussion of both is necessary in order to answer objections to the procedure. Secondly, arguments relating to the ‘child’s’ welfare as set out in s. 13(5) of the 2008 Act relate to future detriments that any resulting child may suffer once born. It is necessary, therefore, in order to engage with these criticisms of sex-selection, to consider the position of the resulting child and not just the embryo. This will be done below by considering the welfare of resulting children, both under the Children Act 1989 and the HFE Act 2008.

male child. During the process of PGD, they select embryo *B* for implantation. Implantation is successful and embryo *B* develops into foetus *B*. Foetus *B* is eventually born, at which point he becomes child *B*. *A1* and *A2*, either with express intention, or through recklessness or negligence, neglect *C* and *D*. During the course of their lives, the interests of *C* and *D* are set back. Causation needs to be established here at each stage. The first step is to establish that the act of selecting *B* caused the parents to neglect *C* and *D*. The second step is to establish that this neglect caused a set back to the interests of *C* and *D*. It is conceivable, given the correct circumstances, that causation in the second step could be established. It is the first step which is problematic. If parents neglect their children to such a degree that it causes a set back to their interests, the cause of their neglect may be many things, from a physical incapacity on their part to care for their children, to an extreme lack of ability to prioritise their children's needs. But it is difficult to see how the act of selection could have caused the parents to act in a neglectful manner towards their other children to the requisite degree. Put another way, in order to create a chain of causation, the parent's neglectful treatment of the children would have to have been caused by the act of selection. Otherwise, the harmful consequences of the neglect would be caused by the act(s) of neglect and not by the act of selection. Causation would, therefore, be difficult to establish.

Von Hirsch discusses the extent to which the actor can be held responsible for remote harms under the harm principle.³⁰⁰ The present situation falls within the category of 'intervening choices', which constitute conduct that 'has no ill consequences in itself, but which is thought to induce or lead to further acts (by the defendant or a third person) that create or risk harm'.³⁰¹ In cases such as this, von Hirsch argues that simple reliance on the standard harms analysis, as set out generally above, overlooks the fundamental question of 'fair imputation'.

³⁰⁰ Andrew von Hirsch, 'Extending the Harm Principle: 'Remote' Harms and Fair Imputation', in Andrew Simester and Tony Smith (eds), *Harm and Culpability* (Clarendon Press 1996) 259-276.

³⁰¹ *ibid* 264.

Whereas the standard harms analysis may allow for coercion to be justified where the danger, gravity, probability, magnitude of the harm's occurrence, when weighed against the value of the potentially harmful act, justifies it, the question of fair imputation demands a closer look at causation. Von Hirsch sets out that:

the question should be asked: *how, and why, can the supposed eventual harm fairly be imputed to the actor?*... it will not do simply to disregard the question, or to assume that a purely empirical account of causality suffices... Even if the prohibited conduct is done intentionally, and even if the conduct does empirically increase the risk of eventual bad consequences, it needs to be determined whether, and why, those consequences should be treated as the actor's responsibility in the imputational sense – the sense of being his 'business' or 'proper lookout'.³⁰²

In this way, von Hirsch argues that the alleged consequences of the act should be considered, not only in light of the standard harms analysis, but we must also ask *how* the eventual outcome can be attributed to the original act and *why* this should be done. If this approach is applied to sex-selection for non-medical reasons, in place of Feinberg's analysis, causation appears to be equally difficult to establish. The difficulty of establishing causation in line with the fair imputation approach can be demonstrated with the use of two examples. In relation to the *how* requirement of the test, opponents of sex-selection would have to establish *how*, for example, neglect of existing children of the family can be attributed to the act of selecting an embryo on the basis of its sex. The link in this situation would be very tenuous and the chain of attribution would appear to be broken by external consequences or acts which would be unconnected to the original act of selection, such as unexpected poverty or sudden mental

³⁰² *ibid* 269.

illness suffered by one or both of the parents, leading to neglect of their children. It is arguable that neglect could be attributed to the act of selection because, for example, the selection means that the parents now have the son that they always wanted so they ‘lose interest’ in their daughters to such an extent that they neglect them. However, this is an extremely unlikely scenario. To establish neglect requires much more than showing a mere loss of interest. It would require that the parents persistently failed to provide adequate food, shelter, general care and/or medical attention for their children.³⁰³ It is unlikely that parents with the determination and finances to undergo PGD in order to produce a child would treat their existing children in this manner.

Secondly, even if the first requirement could be established, opponents of sex-selection would need to explain *why* the neglect, or other alleged harmful consequences of selection, should be attributed to the act of selection. It is clear in most cases that parental neglect should be treated as the responsibility of the neglectful parents, but causation in relation to this example would already have failed at the first requirement. A second example, the potential psychological harm caused to a resulting child by knowledge of the reasons for its creation, demonstrates the difficulty in satisfying the second requirement of *why*. Whilst it is arguable that this example could satisfy the first requirement, it would be very difficult to maintain that parents have a responsibility to only bring a child into existence for a reason that would certainly not cause the resulting child psychological harm upon it gaining knowledge of that reason. To maintain this would necessitate the policing of parental reasons for procreating. Parents would be held legally responsible for any psychological harm caused to a child on discovering that it was brought into existence for the sole purpose of saving a failing

³⁰³ A definition of neglect is provided in the statutory guidance, Department for Education, *Working Together to Safeguard Children: a Guide to Inter-Agency Working to Safeguard and Promote the Welfare of Children* (March 2013) <<http://www.workingtogetheronline.co.uk/glossary/neglect.html>> accessed on 27 August 2013. Neglect is defined as: ‘The persistent failure to meet a child's basic physical and/or psychological needs, likely to result in the serious impairment of the child's health or development’.

marriage, to provide a lifestyle accessory, or even as a tool for getting back at an ex-partner. Therefore, as with Feinberg's approach to causation, it would be very difficult to establish causation using von Hirsch's fair imputation approach.

It may be argued that the analysis of causation advanced above is flawed, as it separates the process of sex-selection and its potential consequences into distinct stages, treating each stage separately. However, this method of separation is necessary when examining the issue of causation, as it is imperative that we are able to identify what it is that the HFEA claims will cause the stated consequences.³⁰⁴ What part of bringing a child of a particular sex into existence is it that the HFEA considers will cause the harm? The operative part of the act of bringing a child of a particular sex into existence is the deliberate decision to select the embryo of the desired sex and to do so for non-medical reasons. The consequences of not treating this element separately would be to make all forms of bringing a child of a particular sex into existence, where other children of the family are subsequently neglected, ethically unacceptable, which would be contrary to the HFEA's own conclusions. This can be demonstrated by the use of two examples.

The Mastertons provide the setting for the first example. After Nicole's death, the Mastertons sought to produce another female child using PGD. They sought to bring a female child into existence and they wanted to do so for non-medical reasons. However, let us imagine that Mrs Masterton had not been sterilised after Nicole's birth and was, therefore, fertile. Given her fertility, let us further imagine that Mrs Masterton eventually conceived a child naturally, without having to resort to PGD, and that this child was a girl, *A*. After the birth of *A*, the

³⁰⁴ Wilkinson illustrates the importance of individuating separate actions by using the following example: '... buying a rail ticket with a view to carrying out a terrorist bombing of a train. Clearly this is (at least *prima facie*) wrong. However, I would maintain that there is nothing wrong with buying the ticket *per se*. Rather, it is planning a terrorist act that is wrong.' In Stephen Wilkinson, *Choosing Tomorrow's Children, The Ethics of Selective Reproduction* (Clarendon Press 2010), 78.

Mastertons proceeded to neglect their four boys to such an extent that it caused a set back to their interests, thereby, causing them harm. Whilst child protection issues would clearly arise in this case, could it reasonably be maintained that the Mastertons were wrong in conceiving *A*, as this was the cause of their subsequent neglectful behaviour? The answer is a clear no. It would be very difficult, and undesirable, to establish that the act of conceiving *A* was the cause of the neglect. To do so would mean that the conception of *A* was ethically wrong as it caused harm to the other children. The wider consequences of this would be that the natural conception of female children in such circumstances would be worthy of punishment as well as, or even in place of, the acts of neglect themselves.

The second example will illustrate the type of situation in which causation might work. The (fictional) Mr and Mrs Jones have a child, *D*. *D* suffers from Duchenne's muscular dystrophy. The Jones wish to produce a sibling for *D*. They want that sibling to suffer from muscular dystrophy so that the two siblings can share the same condition. They produce several embryos, some which possess the genetic deformity and some which do not. They select an embryo, *E*, which possesses the deformity. *E* is implanted inside Mrs Jones and is eventually born as child *E*. Due to her muscular dystrophy, *E* suffers to such an extent that her interests are set back. In this scenario it is much easier to establish that the Jones' act of selecting *E* on the basis that the embryo would develop into a child who had muscular dystrophy caused the harm to *E* which flowed directly out of her condition.

Therefore, it is imperative that we separate the act of bringing a child of a particular sex into existence into distinct steps in order to examine the extent to which we can attribute causation to each part of the act. It is crucial that we recognise the deliberate decision to select a child on the basis of its sex for non-medical reasons as the operative part. And when we do so, it is

very difficult to establish that that decision causes the parents to neglect their existing children, thus causing a set-back to their interests.

The fifth element of harm requires ‘a violation of *B*’s rights’.³⁰⁵ For this to be satisfied, *B* would need to demonstrate that it has a valid claim against those who selected it. If we take *B* to be the selected embryo, who later becomes a child, it is difficult to see what claim it would have against its parents, or the doctors, for selecting it. The obvious point is that had it not have been selected it would not have continued to exist. Therefore, it is arguable that provided its life is worth living there should be no claim.³⁰⁶ But even putting that argument to one side, what claim could *B* possibly have arising out of the act of selection? Let us look at the two worst possible scenarios, as set out in the passage, firstly, that *B*’s parents treat *B* prejudicially after birth, causing a set back to its interests. In such a case, whilst *B* may have a valid claim against the parents, causation (as discussed above), would relate the violation of its rights to the prejudicial treatment and not to the act of selection. The same conclusion would follow in the case of other children of the family who were treated neglectfully.

The second worst-case scenario would be that as a result of *B* discovering that its parents had selected it on the basis of its sex alone, it is so severely psychologically damaged that its interests are set back. Putting to one side the arguments above that an embryo cannot maintain

³⁰⁵ Feinberg, *The Moral Limits of the Criminal Law* (n 22) 105-106.

³⁰⁶ See Feinberg, ‘Wrongful Life and the Counterfactual Element in Harming’ (n 293) 169 and John Harris, *Wonderwoman and Superman* (Oxford University Press 1992), 95-96. They both agree that where the life of a resulting child is worth living, there should be no action in wrongful life. However, they disagree as to whether a resulting child has been ‘harmed’ or ‘wronged’ by its mother where she brings it into existence knowing that it will suffer from a condition that will be harmful to it. Feinberg disputes that it would be ‘harmed’ whether or not the life is worth living as it has not been made worse off than if the ‘negligent’ act had not occurred, (had the act not have occurred it would not exist). But he argues that it may have been ‘wronged’ where the condition makes the life not worth living as it violates his most basic birth right. Whereas Harris argues that the resulting child would be harmed, but not wronged, by being brought into existence when it is known that it will suffer from a harmful condition but the life is still worth living, as he has received a net benefit. Nevertheless, this does not affect my conclusions as they both agree that there should be no action in wrongful life where the life is worth living.

such a claim as its interests do not extend far enough, what valid claim does *B* have against its parents or doctors? *B* has been damaged, not by the act, but by *knowledge* of the act and, more specifically, knowledge of the *reason* behind the act. So *B*'s argument would be that it has a claim against its parents or doctors on the basis that it has been caused psychological damage by *discovering the reason* behind why its parents did an act bringing it into existence. To attribute the child with such a right is granting the embryo (or child) a right to either (a) be protected from the *knowledge* of the circumstances of its creation and the reasons for its coming into existence, or put another way, a right not to be made aware of why it was selected; or (b) a right not to be selected *by reason* of its sex alone.

Contention (a) cannot be sustained as no-one has a right to be protected from the truth about the *reason* for his or her creation. It is also difficult to sustain (b) as it is not the act that is giving rise to claim, it is the *reason* behind the act. The child would be asserting a claim arising out of its parent's *reasons* for acting, as opposed to the act itself. If such a claim were seen as valid, its general application would be very onerous. It would mean that parents would be answerable to their children about the reasons that they chose to bring them into existence. Where the children were psychologically damaged by the reasons behind their parents' choice to bring them into existence, they would have claims against them.³⁰⁷

³⁰⁷ It has been argued by Laing and Oderberg that a child could be harmed by such knowledge and should have a cause of action, namely 'wrongful means' of reproduction or creation. In other words, the child should be able to sue its parents for compensation for psychological damage caused by the deception surrounding its creation, see Jacqueline A Laing and David S Oderberg, 'Artificial Reproduction, the 'Welfare Principle', and the Common Good' (2005) 13 *Medical Law Review* 328, 348-349. This argument is levelled by them at 'artificial reproduction' generally. They argue that the psychological harm arises out of either 'fragmented origins', (the use of donor gametes), or 'actual deception' as to the means of reproduction used. This argument cannot be applied specifically to sex-selection for non-medical reasons for several reasons. Firstly, we either accept that it applies to IVF generally, or not at all. The fact is that IVF is lawful. Therefore, if it is generally accepted that the argument should not form a legitimate basis for prohibiting IVF, it does not justify banning sex-selection. Secondly, the alleged harm caused through discovering that your origins are 'fragmented' due to the means of your creation does not apply generally to sex-selection, as it does not necessarily (nor often) involve the use of donor gametes. Thirdly, deception would not necessarily be used to any greater degree in relation to sex-selection for non-medical reasons than it is in relation to 'natural' reproduction. It is very rare for children to know about how they were created before they reach an age at which they understand the sexual reproductive process. It is only at this age that the 'deception' and mystery of 'where babies come from' is fully revealed.

At every stage of considering whether the alleged harms fall within the definition of *harm*, the arguments for the harms falling within the definition are speculative and the reasoning is inconsistent. Therefore, it is questionable whether the alleged harms relied upon by the HFEA actually amount to *harm* at all, let alone *serious* harm.

The second limb of the HFEA's formulation of the harm principle required the HFEA to consider how effective its chosen intervention, of total prohibition of sex-selection for non-medical reasons, would be. The most logical way of measuring effectiveness in this context would have been by considering what the objective of the intervention was and then determining the extent to which the intervention would achieve this. The main objective of the intervention was to prevent the occurrence of harm to children and families through the prohibition of sex-selection for non-medical reasons.³⁰⁸ One way in which the HFEA could have determined whether the intervention would be effective would have been by comparing the risks of harm arising through non-intervention with risks that may arise through intervention. There are several areas that the HFEA could have considered, but neglected to. Firstly, harms associated with families who continue to produce children until they produce a child of the desired gender could have been considered, but were not.³⁰⁹

Secondly, the report neglected to consider studies which indicated that parents had a more negative attitude towards children whose gender did not match the preferred gender expressed by their parents, pre-birth, and that there were greater instances of perceived problems in the

They are rarely harmed by the deceptive stories of how they came into being that were adopted before this age. In the same way, it is arguable that children who are not told of their IVF (or sex-selective) origins before a certain age will not be harmed by the 'deception' of not having been told, as long as they are told in a responsible and sensitive manner.

³⁰⁸ The other objective was, arguably, to appease public opinion.

³⁰⁹ 'Ethics Committee's Meeting' (n 287).

child and within the parent-child relationship.³¹⁰

Thirdly, the potential psychological harms associated with being deprived the opportunity of choosing the sex of a child were not considered. This could have been explored in many different ways. Firstly, it could have been explored in the context of Asian families within the UK. Secondly, it could have been looked at from the perspective of parental obligations, as it has been argued, (albeit in the context of embryos at risk of developing disabilities), that if parents are prevented from choosing which embryo to implant, they are actually being denied the ability to exercise their parental obligation to select the embryo which will be likely to lead the best life.³¹¹ Finally, arguments relating to dignity could have been considered, given the arguments that have been advanced that not allowing parental choice in such matters could amount to a violation of their own and the resulting child's dignity.³¹²

Fourthly, the HFEA neglected to consider its decision in terms of state liability. Pennings has argued that the state could become responsible for the consequences of *not* applying this new technology, a 'negative responsibility'.³¹³ If shown to be correct, this argument could have substantial ramifications for the state, as it could be found to be liable for harms arising out of its failure to make use of sex-selection for non-medical reasons. Nevertheless, the HFEA failed to explore such possibilities.

Finally, the HFEA failed to identify the harms that may occur as a result of intervening in this

³¹⁰ For example, see Hakan Stattin and Ingrid Klackenberg-Larsson, 'The Short and Long-Term Implications for Parent-Child Relations of Parents' Prenatal Preferences for their Child's Gender' (1991) 27 *Developmental Psychology* 141.

³¹¹ Peter Herissone-Kelly, 'Procreative Beneficence and the Prospective Parent' (2006) 32 *Journal of Medical Ethics* 166, 166.

³¹² Deryck Beylveled and Roger Brownsword, *Human Dignity in Bioethics and Biolaw* (Oxford University Press 2001), 146.

³¹³ Guido Pennings, 'Sex Selection, Public Policy and the HFEA's Role in Political Decision Making – Response to Edgar Dahl's 'The Presumption in Favour of Liberty' (2004) 8 *Reproductive Biomedicine Online* 268, 269.

intimate area of private life, beyond acknowledging the obvious fact that any prohibition of sex-selection would constitute an intervention in the lives of individuals. The impact that this could have on individuals, families and the children born into these families was not explored. The HFEA, therefore, failed to consider whether its recommendation was consistent with the requirement of effectiveness within its own statement of the harm principle.

The final limb of the HFEA's statement was that any intervention should be non-intrusive. Again, the extent to which the intervention would be an intrusion into the lives of those desiring to use sex-selection, and the impact of such an intrusion, was neglected by the Report.

(iii) Other Definitions of Significant Harm

A potential flaw in the harms argument advanced above is that the analysis of harms relies solely upon Feinberg's definition of harm. There are two other key interpretations of harm, which are used in practice: the first is contained within the Children Act 1989 and the second is linked to section 13(5) of the HFE Act 1990. However, even if the HFEA's alleged harms are analysed by employing these definitions of harm, the HFEA fails to establish the existence of potential harm to a degree sufficient to justify the ban.

The first definition of harm is that adopted by the Children Act 1989. Section 47 of the Act places a duty on Local Authorities to investigate the care given to children where there is reasonable cause to suspect that they are suffering, or are at risk of suffering, 'significant harm'. Where there is evidence of this, the Local Authority may apply for a number of court orders, including care and/or supervision orders. Section 31(9) of the Act defines harm as 'ill-treatment or the impairment of health or development [including, for example, impairment

suffered from seeing or hearing the ill-treatment of another]’. The definition of ‘development’ in this context is ‘physical, intellectual, emotional, social or behavioural development’. ‘Health’ includes ‘physical or mental health’ and ‘ill-treatment’ includes ‘sexual abuse and forms of ill-treatment which are not physical’. The courts apply this definition flexibly. However, it should be noted that the degree of ill-treatment or impairment must be significant. The courts will not make such orders lightly and the alleged significant harm will almost always, (except in the case of non-accidental injury), have been built up over a prolonged period of time. This is especially true of allegations of neglect. In other words, isolated incidents of alleged neglect or failures in parenting will not suffice in justifying the making of these orders. The burden of proof is always upon the Applicant Local Authority to present evidence of harm or risk of harm.

Whilst the interpretation and application of this definition of harm differs from that of Feinberg’s, the HFEA’s alleged harms are equally as far from meeting the Children Act criteria for several reasons. Firstly, alleged psychological damage caused to resulting children by them discovering the reasons behind their creation would need to be significant. It would need to impair the child’s development or, at the very least, impact upon the child’s mental health. As discussed above, it is highly unlikely that such psychological damage would ever materialise through a child discovering that it was selected because the parents valued one of its characteristics – its gender as an embryo – so much. It is no more likely to occur than in other lawful IVF scenarios, such as where donor-gametes are used to create an embryo. There is no case law substantiating the contention that such circumstances have ever caused harm, in themselves, sufficient to justify state action under the Children Act 1989. Secondly, whilst parents neglecting the resulting (or existing) child could amount to significant harm, the neglect would need to be serious and prolonged. Such parents would need to have persistently

failed to engage with the Local Authority's efforts to assist them. It is exceptionally unlikely that parents who have the commitment, determination and finances to undergo PGD would neglect their children to this extent, if at all. The HFEA has shown no reason to believe that there is a greater risk of neglect in relation to embryos selected by virtue of their sex than those selected in the course of straight-forward IVF. Finally, as discussed above, the HFEA's harms are based upon speculation. They are not substantiated with any evidence. Section 47 requires that there be 'reasonable cause' to suspect that the children will suffer, or are at risk of suffering, the harms. Evidence of this would need to be presented in court, sufficient to convince a judge that the only way of protecting the children is by way of court intervention. The alleged harms of sex-selection for non-medical reasons would not, therefore, amount to significant harm within the Children Act definition.

The second interpretation of harm arises out of the concept of 'welfare' contained within the HFE Act 1990. Section 13(5) of the 1990 Act, (as amended by the 2008 Act), provides that:

A woman shall not be provided with treatment services unless account has been taken of the welfare of any child who may be born as a result of the treatment (including the need of that child for supportive parenting), and of any other child who may be affected by the birth.

This provision therefore requires that the welfare of both resulting and existing children is taken into consideration before treatment is provided. 'Welfare', in the context of children or potential children, is a very fluid concept, which is not sufficiently defined by the HFE Act. The HFEA's Code of Practice provides some guidance on the interpretation of welfare, which has 'significant harm' at its core. The latest HFEA Code of Practice requires that the welfare

assessment is carried out in the following manner:

The centre should assess each patient and their partner... before providing any treatment and should use this assessment to decide whether there is a risk of significant harm or neglect to any child...³¹⁴

In other words, the parents will fall short of meeting the welfare of the child test only where there is a risk of significant harm or neglect to the resulting child or any existing child after the procedure.³¹⁵ Following a consultation on the welfare provision in January 2005, the HFEA confirmed that ‘a risk of significant harm or neglect to any child’ needed to be established in order for treatment to be legitimately refused. It appears that the HFEA intended this to act as the threshold for denying treatment as it was stated in the 2005 report that:

In our new guidance the burden of proof shifts: there is now a presumption to provide treatment, unless there is evidence that any child born to an individual or couple, or any existing child of their family, would face a risk of serious harm.³¹⁶

³¹⁴ HFEA, ‘Code of Practice’ (8th edn), para 8.3 <www.hfea.gov.uk/5473.html#mandatoryAct> accessed on 27 August 2013.

³¹⁵ It has been argued that the welfare principle contained in section 13(5) should not be applied at all in the context of IVF as it is ‘incoherent, disingenuous and illegitimate’, see Jackson, ‘Conception and the Irrelevance of the Welfare Principle’ (n 282). Jackson points out that those conceiving ‘through heterosexual sexual intercourse do so without any external scrutiny of the merit or otherwise of their decision. Monitoring these exceptionally personal choices in order to identify ill-judged or improper conception decisions would be unreservedly condemned as an unacceptably intrusive abuse of state power’, (177). She argues that the decisions of those attempting to conceive using reproductive technologies should, similarly, be free from scrutiny, (178). This is largely based on the argument that there is not necessarily a connection between being infertile and producing off-spring with impaired life opportunities. Consequently, imposing the welfare test on the infertile ‘violates the decisional privacy of infertile couples’, (182). Also see: Harris, *Wonderwoman and Superman* n 306 73-78. Whilst these arguments possess a lot of merit, further discussion of these ideas is beyond the scope of this chapter. Further, the welfare test still forms part of ‘vetting’ all potential parents who are unlucky enough to have to undergo IVF. Notwithstanding these arguments, it will therefore now be considered in greater detail.

³¹⁶ HFEA, ‘Tomorrow’s Children, Report of the Policy Review of Welfare of the Child Assessments in Licensed Assisted Conception Clinics’ (November 2005), 2 <www.hfea.gov.uk/docs/TomorrowsChildren_report.pdf> accessed on 27 August 2013. The consultation in January 2005 was entitled: HFEA, ‘Tomorrow’s Children: A

Further:

The Authority decided that, in order to take into account the welfare of the child, centres should consider factors which may pose a risk of serious medical, physical or psychological harm, either to the child to be born or to any existing child of the family. Although social circumstances have been removed from the guidance as factors to consider, we expect that where adverse social circumstances are severe enough either to be likely to pose a risk of serious psychological harm to the child or to make the parents unable to care for a child, they will be caught by this new policy.³¹⁷

It is evident from this passage that the harm must be ‘serious’. As set out above, there are no specific medical or physical risks of harm that attach to the procedure, (in addition to those which attach to IVF generally). In 2003, the HFEA had focussed on potential psychological harms which it said could arise as a result of the procedure. This passage is clear that such psychological harms would need to be ‘serious’ in order to justify denying potential parents fertility treatment. It has already been argued above that it is highly unlikely that the alleged harms could meet this threshold.

More specifically, the Code of Practice cites two factors which should be considered in establishing significant harm, (although they are not exhaustive):

- (a) past or current circumstances that may lead to any child mentioned above

Consultation on Guidance to Licensed Fertility Clinics on Taking into Account the Welfare of Children to be Born of Assisted Conception Treatment’ (January 2005)

<www.hfea.gov.uk/docs/TomorrowsChildren_consultation_doc.pdf> accessed on 27 August 2013.

³¹⁷ *ibid* ‘Tomorrow’s Children, Report of the Policy Review’ 9.

experiencing serious physical or psychological harm or neglect, for example:

- (i) previous convictions relating to harming children;
- (ii) child protection measures taken regarding existing children; or
- (iii) violence or serious discord in the family environment. And

(b) past or current circumstances that are likely to lead to an inability to care throughout childhood for any child who may be born, or that are already seriously impairing the care of any existing child of the family, for example:

- (i) mental or physical conditions;
- (ii) drug or alcohol abuse;
- (iii) medical history, where the medical history indicates that any child who may be born is likely to suffer from a serious medical condition, or
- (iv) circumstances that the centre considers likely to cause serious harm to any child...³¹⁸

It is difficult to see how the HFEA's alleged potential 'harms' set out above meet this criteria. Firstly, although the factors cited for consideration are not exhaustive, they do confirm that the significant harm test sets the bar at a very high level. Clearly, clinics are to look for the presence of something serious indicating a likelihood of significant harm occurring. The factors appear to be suggesting that the circumstances should point either to (a) a *propensity* to cause significant harm to children, or the presence of (b) an *impairment* that either creates a complete inability to care for a child or results in a *serious* impairment in the level of care that the parent can provide. The potential harms relied upon by the HFEA in its consultation do not, *prima facie*, meet this criteria. In the vast majority of cases, parents seeking sex-selection

³¹⁸ 'Code of Practice' (n 314) para 8.10.

for non-medical reasons through PGD would not have the requisite antecedent record or history of abusive behaviour to establish a propensity to harm children as required by consideration (a). If they did, treatment could be refused by a clinic. But this refusal would be based upon the fact that their history gives reasonable cause for concern and not the choice that they have made to undergo sex-selection. In relation to consideration (b), again, the majority of patients would not display the requisite degree of physical or mental impairment to meet the test for significant harm. The minimum threshold according to consideration (b) is stated to be that the parents are either completely unable to care for a child, or that they already have a significant impairment in caring for children which has been demonstrated through their care of an existing child. These impairments should be more than merely fleeting or surmountable, they should persist throughout the whole of the resulting child's childhood.

Secondly, this significant harm test says nothing of the views, beliefs, values and/or preferences of patients. The Code of Practice provides no necessity for such matters to be disclosed, let alone taken into account. It does mention that:

Those seeking treatment are entitled to a fair assessment. The centre is expected to consider the wishes of all those involved, and the assessment must be done in a non-discriminatory way. In particular, patients should not be discriminated against on grounds of gender, race, disability, sexual orientation, religious belief or age.³¹⁹

So it appears that 'beliefs', for example even where categorised as extreme religious beliefs, (which could potentially be detrimental to a child's welfare), cannot legitimately be

³¹⁹ *ibid*, para 8.7.

discovered nor taken into consideration unless they have already resulted in state intervention through previous convictions or court orders. It is therefore unlikely that gender preference as expressed through intended use of sex-selection for non-medical reasons, (were it not for its prohibition), would fall within the range of considerations which could give rise to a legitimate refusal of treatment under s 13(5).

Finally, the HFEA has made it clear that evidence of such harm is required before treatment can be refused.³²⁰ There must be evidential grounds for believing that the child is at risk of significant harm or neglect. On a practical level, this will be met by evidence of past events relating to the parents' care of other children or more recent events demonstrating neglect or abuse suffered by existing children as a result of inadequate care. Criminal convictions relating to child abuse or neglect may suffice, as will evidence of severe disabilities on the part of the potential parents which would be likely to affect their parenting so adversely and for so long that it would significantly harm the child. The HFEA is clear that mere assertions or accusations without such evidence would be extremely unlikely to suffice. Therefore, the HFEA's own position is that if there is no evidence which causes us to believe that, by virtue of the procedure or something in the parents' past or general nature, significant harm or neglect will occur, we do not meet the threshold for state interference. The HFEA's recent position on the role of significant harm and evidence of that harm is inconsistent with its earlier arguments, as contained within its 2002-2003 consultation on sex-selection, which sought to rely upon assertions that resulting children will suffer harm from the procedure without substantiating this with any evidence. In other words, the HFEA's prior assertions of the risks of harm which attach to sex-selection for non-medical reasons would not meet the HFEA's own significant harm test which it has stated itself must be met in order to justify

³²⁰ The HFEA went on to state that: 'the importance of patient autonomy means that clinics should only refuse to provide treatment where there is *evidence* that the child is likely to suffer serious physical or psychological harm' (my emphasis), 'Tomorrow's Children, Report of the Policy Review' (n 316) 7.

legitimately denying parents fertility treatments on the basis of child welfare.

The HFEA's interpretation of when state interference is justified is also consistent with that contained in the Children Act 1989, which also draws the line at 'significant harm'.³²¹ This is very important as the welfare principle has its origins in family law proceedings³²² and is at the heart of this statute. As already discussed, the type of 'damage to welfare' discussed here would not meet the threshold for state interference, as it does not meet the significant harm test, either under the Children Act, within Feinberg's definition, or even under the HFEA's own interpretation. It is clear then that in the absence of evidence of significant harm the HFEA accepts that fertility treatments should not be denied. This threshold is highly unlikely to be crossed in sex-selection for non-medical reasons scenarios, (without some additional element unconnected with the procedure itself, such as one of the parents having a conviction for a serious offence against a child).

(iv) Welfare

The term 'welfare' has been discussed above in relation to the level of detriment to child welfare that justifies state interference. The HFEA feared that there were 'risks' to the welfare of resulting and existing children arising out of the procedure. However, this issue was not examined in sufficient detail during the debates. The questions that should have been asked include the following: (a) what does, or should 'welfare' mean in this context?; (b) to what extent, and when, does harm to child welfare constitute a legitimate basis for state

³²¹ Significant harm is the line for justifying interference 'through the Courts'. However, the parents may consent to state interference under s. 20 of the Children Act 1989 even where there is no risk of significant harm. This may happen, for example, where the parents do not feel that they can cope with the child. However, this is irrelevant for the purposes of this chapter, because that falls within the remit of parental decision-making, rather than unwanted state intervention. The important point is that the Local Authority cannot remove a child from its parents unless either it has parental consent under s. 20, or it has obtained a Court order using the significant harm tests.

³²² A point noted in Jackson, 'Conception and the Irrelevance of the Welfare Principle' (n 282) 176.

interference; and (c) what would the impact of the procedure be on child welfare?³²³ The former two questions have been considered above. The final question will be considered now.

The aim of this discussion is to consider whether, far from causing significant harm to the welfare of resulting and existing children, the procedure is actually detrimental at all. Or whether, on balance, the procedure could actually benefit child welfare. I will first consider resulting children. The crucial task is establishing the standard to which child welfare should be judged. One option is to make detriments to the welfare of resulting children compete against the positives to their welfare that the procedure provides through ensuring that they come into existence.³²⁴ In short, the most obvious benefit of the procedure for the welfare of children resulting from it is that they are able to come into existence. This benefit will not apply to all scenarios as it is possible to envisage a life which is not worth living, (for example, being born with an extremely painful and debilitating condition which cannot be treated and results in death shortly after birth).

It has been argued that this approach should not be applied to sex-selection.³²⁵ However, even

³²³ It must be noted that a requirement to consider a child's welfare is not satisfied by merely considering the negative impact that a procedure may have upon the resulting or existing child or children. The assessment of welfare should also take into account potential positive effects of the procedure upon the child's welfare. It should be a balancing exercise. This is not to suggest that the benefits compensate for the negatives, but that both must form part of any fair determination of child welfare. Steinbock and McClamrock make the same point in relation to whether the creation of a child born with a disability was unjust, in Bonnie Steinbock and Ron McClamrock, 'When is Birth Unfair to the Child? (1994) 6 *Hastings Centre Report* 15, 17-18. This is very important in relation to potential resulting children, as there may be positive elements of their potential existence which would far outweigh any damage to their welfare through, for example, discovering that they were chosen as embryos due to their sex. It is also very important to existing children, as their welfare may be enhanced by the birth of a sibling via sex-selection much more than it is damaged. This is similar to the 'bio-liberal' position expounded by Campbell and Cabrera, which takes into account the medical and non-medical harms and benefits of selecting embryos during PGD, see: Tom Campbell and Laura Cabrera, 'The Weak Moral Basis for Strong PGD Regulation' in Sheila A M McLean and Sarah Elliston (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013), 20.

³²⁴ This cannot be judged against the possibility of non-existence, because as has been pointed out, the two states are not comparable. Rather, this concerns the question of whether it would have been better had the child never have been born, see Steinbock, 'When is Birth Unfair' (n 323) 16.

³²⁵ For example, Laing and Oderberg argue that, '...means to an end, no matter how desirable an end, can be ethically impermissible, and we cited the examples of the Multiple Cloner, the Profligate Parent, and the Hybridiser. Once it is agreed, at least in principle, that some means are inherently unacceptable, it can then be

if it is accepted that the 'life worth living' test should not be determinative and that a broader approach to welfare should be adopted, it must still be shown that there is evidence causing us to believe that the welfare of existing and resulting children will actually be damaged, and that it will be damaged more by permitting the procedure than not permitting it. It has already been argued that there is no evidence to substantiate claims that psychological damage or neglect will arise out of, or as a result of, the procedure. Mere distress or 'favouritism' would be a long way from meeting the significant harm test. These factors are exhibited as part of almost every childhood to some degree.

This leads to another potential way of considering the welfare of the resulting child. This is by measuring it against the 'average' child.³²⁶ It is illuminating to ask the following question: against the background of the 'average' child and his or her welfare, (if there can be such a thing), where on the scale will the resulting child's welfare be likely to fall? As argued above, it would be very unlikely to fall below average. Parents using sex-selection would be likely to ensure that the child would be very well looked after, given the investment that they would have to make, both financially and emotionally, in bringing the resulting child into being. Punjabi parents selecting sons would arguably be even more likely than most other couples using sex-selection to ensure that sons born as a result of the procedure received the highest calibre of care.

It could be argued that the welfare of the child should be judged against an even higher standard, that perhaps the parents should have a duty to provide the child a good life. Mill's interpretation of how child welfare should be considered appears to require more than the

seen that the goodness of life cannot be appealed to in itself as the reason why AR offspring are, as it were, stopped from complaining about the harm caused to them by the means used' in Laing (n 307) 347.

³²⁶ This has been discussed by Kamm who draws the line at 'normality', in Frances M Kamm, *Creation and Abortion, a Study in Moral and Legal Philosophy* (Oxford University Press 1992), 124-127.

mere benefit of existence in order to justify producing a child. It also appears, arguably, to require a higher standard than the ‘average child’ test. In his view:

The fact itself, of causing the existence of a human being, is one of the most responsible actions in the range of human life. To undertake this responsibility – to bestow a life which may be either a curse or a blessing – unless the being on whom it is to be bestowed will have at least the ordinary chances of a desirable existence, is a crime against that being. And in a country either over-peopled, or threatened with being so, to produce children, beyond a very small number, with the effect of reducing the reward of labour by their competition, is a serious offence against all who live by the remuneration of their labour.³²⁷

He is suggesting that before producing a child, potential parents should ensure that that potential child will have: (a) a desirable existence and (b) have at least an ordinary chance of achieving a desirable existence. The question which falls to be answered is: what is a ‘desirable’ existence? Clearly Mill required something more than mere existence for the life of a child to be desirable. Taken at its highest, he appears to be suggesting that the existence should have characteristics which are sought after and highly regarded. However, it is unlikely that he intended to place the bar so high. He was discussing this issue in the context of parents who produce, through natural means, more children than they can adequately provide for. The statement would, therefore, apply to all potential parents and not merely those seeking fertility treatments. Further, given that he appears to be referring to those who may have difficulty in supporting their children, it is unlikely that his expectations of ‘desirable’ extended beyond the basic needs that a child has in order to exist without having to

³²⁷ Mill (n 36) 108. Mill does not necessarily see this as a ground upon which to prevent people from reproducing but sees the state as sharing a duty to ensure that children are brought up in accordance with this.

rely on someone other than its parents. This could be seen as a version of parental responsibility. Steinbock and McClamrock have argued that in deciding whether or not to bring a child into existence, parental responsibility requires that parents ‘refrain from having children unless certain minimal conditions can be satisfied’. They should at the very least ensure that the child will have ‘a decent chance at a good life...’ because it is ‘unfair to children to bring them into the world with “the deck stacked against them”’.³²⁸

Whilst it is accepted that, existence being better than non-existence, is not the interpretation of welfare applied by the HFEA, we must be careful not to judge parents who use reproductive technologies too harshly.³²⁹ There is no justification for demanding that any resulting child’s welfare is better than the average child. Even the average child test would be a much higher standard than both the Children Act welfare test and the 2008 Act’s welfare requirement. As Steinbock and McClamrock have argued, ‘the principle of parental responsibility says only that it is wrong to bring children into the world when there is a good reason to think that their lives will be terrible. It does not suggest that people should not have children unless conditions are ideal’.³³⁰ Yet it is difficult to find evidence that any child resulting from sex-selection would fall below even this test. As chapter 6 will demonstrate, the welfare of male Punjabi children greatly and significantly outweighs that of female Punjabi children and there are strong elements of this amongst certain sections of the Punjabi community in the UK today. Therefore, in the absence of additional factors indicating that the care which will be afforded by the potential parents will be deficient enough to compromise the child’s welfare, sex-selection for non-medical reasons does not in and of itself fall short of the welfare

³²⁸ Steinbock, ‘When is Birth Unfair’ (n 323) 17.

³²⁹ As noted in Jackson, ‘Conception and the Irrelevance of the Welfare Principle’ (n 282) 181. Harris makes a similar point when he argues that we ‘should not prevent all less than optimal parenting or less than ideal circumstances into which to be born...’ in John Harris, ‘Rights and Reproductive Choice’ in John Harris and Soren Holm (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Oxford Clarendon Press 1998), 15.

³³⁰ Steinbock, ‘When is Birth Unfair’ (n 323) 20.

provision. The welfare of the child does not, therefore, constitute a bar to sex-selection for non-medical reasons being carried out.

A further point is that, in relation to resulting children once born, there are at least two current safeguards. The first is the s. 13(5) welfare test and the second is the Children Act 1989. They seek to protect children or potential children born through IVF procedures. There is no reason to believe that these safeguards would not work in the same way in relation to sex-selection for non-medical reasons.³³¹ It has been established above that children resulting from sex-selection for non-medical reasons are not at increased risk of harm by virtue of the procedure or the selection. Children or potential children who are at increased risk of significant harm will be identified at the s 13(5) welfare test stage. The worst case scenario is that certain cases ‘slip through the net’ and the significant harm could then materialise during childhood. However, if that happened, Children Act measures could be taken. Therefore, the total prohibition of the procedure on the basis of potential harms to resulting children was disproportionate and unnecessary.

The second category to be considered is that of existing children. There are clear benefits of the procedure for the welfare of existing children. In the specific context of Punjabi families, if parents want a boy so much that they are prepared to pay huge sums of money for IVF and PGD, there are several reasons to believe that it will enhance the welfare of their existing children if they produce a son. Firstly, if they want a son so desperately, they are highly likely to be very miserable without one. The study by Culley and others highlights that amongst certain sections of south-Asian society, being ‘sonless’ is akin to being childless.³³² Amongst

³³¹ ‘it seems obvious that child protection interventions after birth (for instance, by social service professionals) would be justified on harm-prevention grounds; thus there is nothing ethically problematic about trying to prevent abuse once the children in question are born’, in Wilkinson, *Choosing Tomorrow’s Children* (n 304) 83.

³³² Lorraine Culley, Frances Rapport, Savita Katbamna, Mark Johnson and Nicky Hudson, ‘A Study of the

this section of the UK Punjabi community, being sonless will almost certainly have a grave impact upon parents and their existing children. It places a huge pressure upon the family, which can lead to marriage breakdown and other negative impacts upon existing children.

Secondly, amongst this section of the community, the desire is so strong to produce a son that parents are not likely to give up on their dream. If they cannot have PGD, they are likely to continue to produce children until they produce a son.³³³ This poses clear risks to the welfare existing children. They will not only be part of a larger family than they would otherwise have been, leading to a greater sub-division of resources and parental attention, but they may also be part of a larger family of children of an ‘unwanted’ gender. This creates a much greater risk of neglect than sex-selection via PGD. A related point is that if parents are denied access to the procedure and, subsequently and perhaps consequently, produce a child of the ‘wrong’ gender, the welfare of that child may be compromised.³³⁴ Stattin and KlackenBerg-Larsson found that in terms of the parent-child bond, the problems that parents perceived their child to have and the time that parents spent playing with their child, children of an undesired sex suffered more negative results than those who matched their parents’ stated sex preference.³³⁵

Finally, in families that are desperate enough to undergo the procedure for the chance of producing a son, sons will clearly play a very important role. The traditional role of sons, even amongst certain Punjabi families in the UK is set out in chapter 6. They play a pivotal role in arranging marriages for their sisters and ‘taking care of’ their sisters after marriage and

Provision of Infertility Services to South Asian Communities’ (Abridged version De Montford University May 2004), 6 < <http://www.dmu.ac.uk/about-dmu/academic-staff/health-and-life-sciences/lorraine-culley/lorraine-culley.aspx> > accessed on 1 July 2012. This study is discussed in greater detail in chapter 6.

³³³ As noted in Harris, *Wonderwoman and Superman* (n 306) 159.

³³⁴ Pennings makes the point that ‘one should realize that a prohibition of sex selection for non-medical reasons does not alter parental desires. There is evidence that being born now with the undesired sex... entails some disadvantages for those children’, in Pennings, ‘Sex Selection, Public Policy’ (n 313) 269.

³³⁵ Stattin (n 310).

their parents in old age. Whilst this is no longer typical of Punjabi families in the UK, there are still a proportion of families, (those recently immigrating from Punjab for example), for whom this is very important. It is this section of the community who are most likely to seek sex-selection. Social stigma may attach to girls who do not have brothers and community disadvantages may follow from this. In other words, they may be less likely to feel secure within their childhood and, later, within their own marriages. In relation to the welfare of existing children, it appears that permitting the procedure may be beneficial.³³⁶

There is an argument that there could be wider detriments to existing girl children of permitting the selection of male embryos as it confirms that girls are worth less than boys and this could confirm that neglecting girls at the expense of boys, or treating boys better than girls, is legitimate. This will be discussed in chapter 7, where it will be argued that prohibition may actually be more detrimental to girls and the perception of women as it suggests that they are so worthless that they cannot be attributed with the responsibility to make their own decision on this issue and that they need to be protected from themselves.

³³⁶ Let us assume that the arguments I have advanced above, (that resulting and existing children are at no greater risk of harm by virtue of the use by their parents of sex-selection for non-medical reasons), are incorrect, and that they are in fact at greater risk. In the context of Punjabi families, if children in these families do suffer harm, it will be as a result of son preference as opposed to sex-selection. This is because it is the beliefs that underlie son preference which cause parents to act in a certain way towards their children, rather than the sex-selective procedure, (this causation argument has been set out above). If this is the case, then the state is under a duty to provide greater assistance to those families, (this duty can be found in section 22 of the Children Act 1989). Assistance may take the form of offering educational courses, financial help, counselling and many other activities. Despite this, very little has been done to assist this section of the community to place greater emphasis on the worth of daughters. Instead, the state is content that it has discharged its duty by prohibiting the means through which sons can be produced via PGD. However, as Pennings notes, a prohibition of the procedure does nothing to alter parental preferences, see Pennings, 'Sex Selection, Public Policy' (n 313) 269. No doubt the state would hide behind the provisions contained within the Children Act that it need only intervene where there is risk of significant harm. The question is, why is this 'significant harm' test deemed an appropriate protection for the welfare of children who are born 'naturally', but are born female and suffer harm due to their sex, but not for children who are born through sex-selection to ensure that they are born the 'correct' gender and therefore are at much less risk of harm? Either there is evidence to suggest that the circumstances into which such a child is born may give rise to significant harm, (in which case those families require assistance now, because we know that the prohibition will not have altered son preference amongst these families), or there is no evidence of such harm and there is no justification for the ban. This chapter has argued in favour of the latter.

(v) Application of Harms and Public Opinion

The report's justification for the prohibition was achieved through relying upon potential harms in conjunction with public opinion. The HFEA applied these two elements in the following way:

... the fact that a proposed policy is widely held to be unacceptable does not show that it is wrong. But there would need to be substantial demonstrable benefits of such a policy if the state were to challenge the public consensus on this issue. In our view the likely benefits of permitting sex selection for non-medical reasons in the UK are at best debatable and certainly not great enough to sustain a policy to which the great majority of the public are strongly opposed.³³⁷

The HFEA was basing its decision on the potential harms that may be caused to the health and welfare of embryos produced, (which may potentially develop into children), and the welfare of existing children of the family. These harms were spoken about as potential harms, not harms that the HFEA substantiated with evidence.³³⁸ In relation to the potential health risks of PGD the Report explicitly states that the rate of birth abnormalities is no higher amongst babies born using PGD. Therefore, the report relies upon the potential for health risks later in life, in relation to which no evidence was available.³³⁹

The burden of proof was placed on those seeking to permit sex-selection for non-medical reasons to show 'benefits' of the procedure,³⁴⁰ rather than on those seeking to restrict the

³³⁷ *Options for Regulation* (n 75) 36, para 147.

³³⁸ Juliet Tizzard, 'Sex Selection, Child Welfare and Risk: A Critique of the HFEA's Recommendations on Sex Selection' (2004) 12 *Health Care Analysis* 61, 64 and 65; Harris, 'Sex Selection and Regulated Hatred' (n 49) 293.

³³⁹ *Options for Regulation* (n 75) 27, para 107.

³⁴⁰ Harris, 'Sex Selection and Regulated Hatred' (n 49) 294.

selection. The standard of proof required them to show that the level of benefit was ‘demonstrable’. This completely reverses the HFEA’s own reasoning in relying upon the harm principle because the principle requires the advocates of coercion to demonstrate the existence of the harm.³⁴¹ The HFEA has reversed this so that it is now for those seeking sex-selection to provide evidence of demonstrable benefits.

The only justification expressed in the report for this shift in burden of proof is public opinion.³⁴² The problem with this reliance on public opinion is the use to which it has been put. The assertion that sex-selection could be harmful should, under the harm principle, have been substantiated with evidence. Otherwise, it is a mere assertion. But instead of providing evidence of the potential harms of sex-selection, the HFEA provided evidence of societal fear of the potential harms of sex-selection. Furthermore, it sought to use this public fear of harm, in place of evidence of the harm, in order to justify its reliance upon such alleged harms. As discussed above, public opinion was the first element of the HFEA’s reasoning in justifying the ban on sex-selection for non-medical reasons. The risk of potential harms was the second element. In relation to the second element, the HFEA has no evidence to substantiate its claims. So in order to escape the consequences of not being able to prove its case, it has shifted the burden of proof onto those seeking sex-selection to prove their case. Those seeking sex-selection must show demonstrable *benefits* of the procedure, (as opposed to the HFEA having to show the existence of the *harms* upon which they seek to rely). And in order to achieve this reversal of the burden of proof, it relies upon the first element of its reasoning, (public opinion). Therefore, the HFEA has applied the harm principle in a distorted manner. It has used the basic principle, (that harm to others can justify coercion of the actor), without

³⁴¹ *ibid* 293-294; Tizzard (n 338) 66.

³⁴² This has been noted by Edgar Dahl, ‘The Presumption in Favour of Liberty: A Comment on the HFEA’s Public Consultation on Sex Selection’ (2004) 8 *Reproductive Biomedicine Online* 266, 266-267 <<http://www.ncbi.nlm.nih.gov/pubmed/15038888>> accessed on 26 August 2013.

any of the safeguards that are built into the harm principle, the primary one being that the burden of proof is on the advocates of coercion, but also that the harms be serious. When viewed in light of the dubious nature of the HFEA's perception of public opinion, its justifications appear all the more unsound.

The opinions of members of the public are not a sound basis upon which to restrict a person's liberty under the harm principle.³⁴³ Others have argued that the way in which the HFEA uses public opinion to justify its conclusions is legitimate, as it does not rely equally on all of the opinions expressed by the public, (as it felt that certain opinions were less meritorious than others), it places greater weight upon public opinion as to the potential harms of sex-selection,³⁴⁴ and that there are real grounds for believing that sex-selection could be harmful as it could distort the parent-child relationship.³⁴⁵ However, it cannot be argued that the HFEA is justified in relying on public opinion in order to circumvent having to prove its case, no matter how real the grounds are for believing that that opinion is in line with what may happen. Further, the only way to justify its heavy reliance on this particular public opinion is to prove that it has real grounds for believing that it is correct. The only way of showing that it is correct is by substantiating it with evidence. But this is precisely what the HFEA cannot do. The evidence, as the HFEA has admitted under the second limb of its reasoning, is not available. It cannot, therefore, rely on the first limb, (public opinion) without the substantiating evidence, in order to justify its reliance upon the second limb of its reasoning despite its failure to provide evidence to substantiate this limb.

³⁴³ As set out in chapter 1. Further, Harris argues that public opinion is an illegitimate means by which to circumvent the principle of reproductive liberty, see Harris, 'Sex Selection and Regulated Hatred' (n 49).

³⁴⁴ For example see Herissone-Kelly, 'The Prohibition of Sex Selection' (n 49) 265 and 269.

³⁴⁵ Baldwin (n 49) 290.

(vi) The Precautionary Principle

Clearly, then, there was a lack of evidence substantiating the alleged risk of harms. The HFEA had to deal with this evidential uncertainty and, in doing so, should have had two aims: firstly, risk limitation, (as there were risks that certain harms could materialise) and secondly, evidence gathering, (as even on the HFEA's own case, the procedure could not be permitted until the benefits of it could be demonstrated).

The HFEA acknowledged that the precautionary principle should be employed in this context.³⁴⁶ Because it is virtually impossible that reproductive technologies will ever reach a point where risk can be eliminated,³⁴⁷ there is clearly a need for caution. However, this caution should serve the two aims stated above. In relation to the first, risk limitation does not necessarily demand prohibition. The precautionary principle provides that it can be achieved through 'preventative measures'. Close monitoring and regulation would have amounted to preventative measures. Allowing procedures under licensed conditions³⁴⁸ or pilot schemes would have satisfied this. This would also have helped to fulfil the second aim, of information gathering. The best that can be hoped for in this regard is that, through research, the nature, extent and likelihood of the risks occurring can be established. Allowing pilot studies and/or using research from countries where such procedures are permitted and have been successful could have achieved this aim.³⁴⁹ However, the HFEA interpreted a precautionary approach to mean that there should be total prohibition. It also failed to consider evidence from other jurisdictions which could have helped to reduce the evidential uncertainty. This was a disproportionate approach. It appears to have overlooked the fact that the total prohibition of a

³⁴⁶ *Options for Regulation* (n 75) 35, para 141.

³⁴⁷ Tizzard (n 338) 66.

³⁴⁸ Edgar Dahl, 'Procreative Liberty: the Case for Preconception Sex Selection' (2003) 7 *Reproductive BioMedicine Online* 380, 384.

³⁴⁹ Pilot studies had been suggested to the HFEA as a way forward by both individuals and professionals, see *Options for Regulation* (n 75) 22, para 83. This will be discussed further in the next chapter.

potentially risky procedure is not imperative according to the principle. Further, through supporting a blanket prohibition, it closed the door to enabling advocates of sex-selection for non-medical reasons to discharge the burden of proof which it had placed upon them by obtaining evidence of *demonstrable benefits*.³⁵⁰

(b) The House of Commons Science and Technology Committee's Review

In its 2005 report, the Science and Technology Committee acknowledged that the state had a legitimate interest in assisted reproduction and that reproductive freedoms must therefore be balanced against the interests of society.³⁵¹ It recognised that there were potential 'harms' attached to sex-selection, as the HFEA had done.³⁵² The Committee noted that, other than the potential health risks of PGD, the HFEA had considered that the most persuasive argument for prohibiting sex-selection for non-medical reasons was the welfare of children and families.³⁵³ The Committee, therefore, found that 'the most persuasive argument was not that there was evidence of harm but that there was evidence of concern about harm'.³⁵⁴ The Committee found this approach to be unsatisfactory. It concluded that alleged harms should be based on evidence.³⁵⁵

It agreed that the 'precautionary approach' should be employed. Therefore, the Committee too, adopted the dual approach of harm and precaution used by the HFEA. However, it

³⁵⁰ The effect of the HFEA's reasoning being uniformly applied to reproductive medicine was summarised by Tizzard, 'we would find ourselves in a situation where, as individuals, we have to demonstrate that the immediate benefit of having a child outweighs the medical risks associated with pregnancy and childbirth and the theoretical psychological risks of bringing up that child, before we were allowed to try to get pregnant', in Tizzard (n 338) 67.

³⁵¹ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 22, para 46.

³⁵² *ibid* 61, para 134.

³⁵³ *ibid* 121, para 272.

³⁵⁴ *ibid*.

³⁵⁵ *ibid* 22, para 46.

interpreted the principle in a very different way. The Committee concluded that in the medical sphere it has never meant “proceed only where there is evidence of no harm”, as this would have greatly stifled medical advances. It concluded that a rational approach was required to risk assessment and management.³⁵⁶ In light of this the Committee concluded that the level of precaution required under the precautionary principle meant ‘that alleged harms to society or to patients need to be demonstrated before forward progress is unduly impeded’.³⁵⁷ Precaution, it concluded, did not necessarily mean immediate and total prohibition. Precaution could be satisfied through vigilance, by tight oversight and careful regulation of a procedure, unless and until sufficiently serious harm or potential harm began to outweigh potential benefits.³⁵⁸

It did not consider evidence of hostile public opinion, whether representative or not, to form an adequate ground for prohibiting the procedure for non-medical reasons, on the ground that any allegations of risks of harm need to be based on evidence, not opinion.³⁵⁹

Given the Committee’s interpretation and application of the precautionary principle, it considered that the UK ‘should carefully consider the current evidence there [is] available now about such imbalances and harms before allowing blanket changes [to] our laws and regulations on sex-selection’.³⁶⁰ It was of the opinion that greater analysis of the issue was required than had been given to it by the HFEA and that greater research was needed into the demographic impacts and the implications for the creation and destruction of embryos before

³⁵⁶ *ibid* 123, para 276. In a similar vein, Glover has argued that, in relation to reproductive technologies, ‘In the debate between attaching infinite weight to unknown risks and attaching no weight to them... My hope is that... our thinking about risk will have improved to the extent at least of finding some way of being cautious about new and unknown risks without opting for total paralysis.’ Jonathan Glover, *Choosing Children, Genes, Disability and Design* (Oxford Clarendon Press 2006) 102.

³⁵⁷ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 22, para 47; 175, rec 3.

³⁵⁸ *ibid* 22, para 47.

³⁵⁹ *ibid* 64, para 142.

³⁶⁰ *ibid* para 140.

the introduction of new legislation.³⁶¹ On balance, it concluded that ‘we find no adequate justification for prohibiting the use of sex-selection for family balancing’.³⁶²

Despite agreeing that the precautionary principle should be employed, the Committee felt that the burden of proof to show harm should be on those who oppose sex-selection for social reasons using PGD.³⁶³ It, therefore, reversed the approach that the HFEA had adopted. The Committee’s approach was consistent with the burden of proof according to the harm principle. Therefore, it complied with one of the safeguards built into the harm principle.

The recommendations were branded ‘ultra-libertarian’.³⁶⁴ Nevertheless, the fact is that after having conducted significant research over the course of a year, the Committee had suggested it to be a potentially viable solution.³⁶⁵ It was signed by half of the ten MPs on the Committee.³⁶⁶ The concerns of the five dissenters were outlined in the Committee’s Eighth Special Report published at the same time as the Committee’s substantive report.³⁶⁷ Their concerns included:³⁶⁸ that where unanimity could not be achieved on a controversial topic, it was wrong to adopt an ‘extreme libertarian’ approach from the outset; that there was a lack of regard for ethical arguments against an ‘extreme libertarian’ approach; that there was a lack of

³⁶¹ *ibid* para 142; 179, rec 30.

³⁶² *ibid*.

³⁶³ *ibid*.

³⁶⁴ Ian Gibson, ‘Science and Technology Report Opens Debate on Assisted Reproduction Laws’ (29 March 2005) *BioNews* 301 <http://www.bionews.org.uk/page_37791.asp> accessed on 26 August 2013; Rachel Fenton and Fiona Dabell, ‘Time for Change (2)’ [2007] *New Law Journal* 964, 964.

³⁶⁵ ‘Although the report was not unanimously presented by all the HC Committee members, the breadth of the evidence that it received in the course of its enquiry means that the recommendations cannot be completely ignored’, Dewinder Birk, ‘The Reform of the Human Fertilisation and Embryology Act 1990’ (2005) 35 *Family Law Journal* 563, 563.

³⁶⁶ Five members of the Committee dissented and refused to sign the report. They were: Paul Farrelly; Kate Hoey; Tony McWalter; Geraldine Smith; and Bob Spink. Sarah Boseley, ‘Ethics Row as Choosing Baby’s Sex Splits MPs’ *The Guardian* (24 March 2005) <<http://www.guardian.co.uk/science/2005/mar/24/ethicsofscience.sciencenews/print>> accessed on 25 August 2013.

³⁶⁷ Science and Technology Select Committee, *Inquiry into Human Reproductive Technologies and the Law Eighth Special Report* (HC 2004-05, 491-I).

³⁶⁸ The other concerns related to procedural aspects of the discussions and debates which the dissenting MPs were unhappy with.

balance in the interpretation of principles and propositions; that the report did not represent the early precautionary stance to the role of the state and regulation that it had initially adopted; and that insufficient weight was placed on public opinion and the evidence received.³⁶⁹

The Eighth Special Report was a brief document and provided little in the way of justification or explanation for the concerns expressed. Of particular interest is what the dissenting MPs meant by the phrase ‘extreme libertarian’. This term is not defined or elaborated on in the Report. Whilst there is no generally accepted definition of *extreme* libertarianism, there are several definitions of libertarianism, which appear to have a different focus depending upon the context in which they are used.³⁷⁰

The political notion of libertarianism, put simply, is the defence of liberty.³⁷¹ In this realm, Feinberg has cautiously defined the general understanding of libertarianism as embracing three positions: ‘*laissez-faire* in economic policy, isolationism in foreign policy, and liberalism on the question of criminal prohibitions’.³⁷² In this context, logic dictates that *extreme* libertarianism means the extreme defence of liberty.

³⁶⁹ *Inquiry into Human Reproductive Technologies and the Law* (n 367) 5-6.

³⁷⁰ In the philosophical context, libertarianism is generally considered to entail theories that ascribe to humans ‘free will’, ‘a power to determine or originate their own purposes or ends...’, Robert Kane, *Free Will and Values* (Albany State University of New York 1985), 2. Therefore, humans have the ability to exercise free will and this will is free because it is not determined by antecedent events. The *extreme* or ‘radical’ version of libertarianism advocates that nothing at all prior to a decision influences that decision, not even the motives or reasons of the decision-maker; that decisions are accounted for by randomness, chance or other elements of indeterminacy, at: <http://www.informationphilosopher.com/freedom/libertarianism.html>. It is unclear which of the definitions of *extreme* libertarianism the dissenters were referring to. It seems more likely that they were referring to the political notion of the term, as set out below, as reference to the philosophical ‘free will’ theory would make no sense at all.

³⁷¹ **1. Philos.** Relating to or characterized by the doctrine that human beings possess free will; advocating such a doctrine. **2. a.** Esp. in political contexts: advocating or defending liberty. **b. Polit.** (orig. *U.S.*). Of, designating, or advocating the political philosophy of libertarianism... Also (with capital initial): of or designating any of various political parties promoting this philosophy.’ This is the definition of the adjective. The definition of the noun is very similar: **1. Philos.** A person who holds the doctrine that human beings possess free will... **2. a.** An advocate or defender of liberty (esp. in the political and social spheres). **b. Polit.** (orig. *U.S.*). An advocate or supporter of libertarianism... Also: a member of any of various political parties promoting libertarianism.’ — (Oxford English Dictionary Online) <www.oed.com> accessed on 1 August 2013

³⁷² Feinberg, *The Moral Limits of the Criminal Law* (n 22) 15.

In the context of political philosophy, Nozick's *Anarchy, State, and Utopia*³⁷³ advances a libertarian conception of the state. He argues for a 'minimal' state, in which the remit of the government is limited to providing services of protection and enforcement to its citizens.³⁷⁴ Libertarian constraints would prohibit sacrificing a person for the benefit of another, (or others), and would prohibit 'paternalistic aggression', which is defined as 'using or threatening force for the benefit of the person against whom it is wielded'.³⁷⁵ He contends that the most extensive state which is morally legitimate is the minimal state, on the basis that a more extensive state than this would violate the rights of the people.³⁷⁶ He summarises the role of the minimal state in the lives of people living within it,

The minimal state treats us as inviolate individuals, who may not be used in certain ways by others as means or tools or instruments or resources; it treats us as persons having individual rights with the dignity this constitutes. Treating us with respect by respecting our rights, it allows us, individually or with whom we choose, to choose our life and to realise our ends and our conception of ourselves, insofar as we can, aided by the voluntary cooperation of other individuals possessing the same dignity...³⁷⁷

Reference by the MPs to libertarianism is difficult to justify. Nozick does not argue that people should have absolute liberty through possessing rights without constraints on their ability to pursue their own goals. He argues that the liberty to pursue goals should only be interfered with where interference is legitimately justified. He explains this legitimate

³⁷³ Robert Nozick, *Anarchy, State, and Utopia* (Basil Blackwell Basic Books Inc 1974).

³⁷⁴ It provides these services both to those who are able to pay for them and to those who are not, for example, through tax revenues, *ibid* 26-27.

³⁷⁵ *ibid* 34.

³⁷⁶ *ibid* 149, 297 and 333.

³⁷⁷ Nozick does not seek to establish that this state is the state in which we currently exist, but he sees it more as a state to aspire towards. It is this state that most embodies the 'utopian aspirations of untold dreamers and visionaries.' *ibid* 333.

justification in terms of ‘side constraints’, that, in order for the rights of others to be respected, we should be able to pursue our own goals subject to a restriction that we do not violate the rights of others.³⁷⁸ This does not, at first sight, appear to be a position so radical that it justifies, or even explains, the outrage of the dissenters. But the dissenters go further than alleging that the report represents a mere libertarian position. They allege that the report represents an *extreme* libertarian position. This allegation lacks foundation. The final Report does not support sex-selection for non-medical reasons *per se*, it merely requires that attempts to curtail the liberty of the individual (or couple) to choose which embryo is implanted on the grounds of sex are substantiated with evidence; that those who wish to ban the procedure be able to prove their case. This can hardly be said to be a defence of liberty which is *extreme* in degree.³⁷⁹ What is clear is that the dissenting MPs went further than these initial assertions. They issued a public statement condemning the report as ‘outrageous’.³⁸⁰ It was termed a ‘Frankenstein’³⁸¹ report by one MP which, according to another MP, pursued an extreme ‘shock-jock’ approach to liberty.³⁸² This inevitably sparked media interest and comment on the issue.

(c) The Government’s Response

The Government’s response to this was to disagree with the report’s interpretation of the precautionary principle on the basis that the:

³⁷⁸ Nozick terms this a moral ‘side constraint’ to your actions: ‘The rights of others determine the constraints upon your actions... The side-constraint view forbids you to violate these moral constraints in the pursuit of your goals’, *ibid* 29.

³⁷⁹ ‘Critics of our report have described it as ultra-libertarian, which sounds as if it should be an insult. Why belief in liberty should be seen as extreme is beyond me’, see Ian Gibson, ‘Science and Technology Report Opens Debate on Assisted Reproduction Laws’ (29 March 2005) *BioNews* 301 <http://www.bionews.org.uk/page_37791.asp> accessed on 26 August 2013.

³⁸⁰ Ms Smith, MP for Morecambe and Lunesdale, see Boseley (n 366).

³⁸¹ *ibid*.

³⁸² Mr Spink, MP for the Essex constituency of Castle Point, *ibid*.

potential harms that should be taken into account may not necessarily be susceptible to demonstration and evidence in advance. For example, in our view the application of the precautionary principle requires that consideration of harms to society or to patients must include the consideration of potential harms to future offspring³⁸³...the utmost attention should be given to the welfare of children born as a result of assisted reproduction, particularly in deciding whether to approve novel or experimental technologies.³⁸⁴

The Government turned the Science and Technology Select Committee's interpretation of the precautionary principle on its head. According to the Government's interpretation, the principle required that consideration of harms, without evidence of the materialisation of those harms and their impact, was an important consideration in deciding whether to *approve* new technologies, (rather than the opposite approach of requiring evidence of those harms in deciding to *prohibit* such technologies). Therefore, the Government placed the burden of proof upon those seeking sex-selection to justify approval, rather than those wishing to prohibit the practice having to justify its prohibition.

The justification that the Government appears to give for this approach is that evidence of, or a demonstration of, these harms may not exist *in advance*. The question is, *in advance* of what? There are two plausible explanations for this. The first is that the Government meant *in advance* of the technology being permitted and tested. Therefore, the Government rests its argument upon the foundation that, *in advance* of sex-selective technologies being permitted and tested, evidence of and demonstration of the harms attributable to them may not be

³⁸³ *Human Reproductive Technologies and the Law: Government Response* (n 153) 6, para 6.

³⁸⁴ *ibid* 7, para 7.

available. But rather than permitting the procedure, perhaps in pilot form initially,³⁸⁵ to enable such evidence to be gathered, the Government decided that the best course of action was not to permit it. Therefore, the Government took the stance that it was not necessary to substantiate the harms. This could have been achieved through, at the very least, pilot schemes, which the Government did not feel were necessary.

The reasoning behind this is very difficult to ascertain. Firstly, the Government claimed that it may not be possible to substantiate the harms of sex-selection through demonstration or evidence *in advance* of permitting the procedure for non-medical reasons to some degree. Secondly, the Government did not feel the need to permit the procedure, even in pilot form, (which would have been the means through which it may have been possible to substantiate any harms). Yet still, thirdly, the Government maintained that these unsubstantiated harms should be taken into account in determining its permissibility. Therefore, the Government appears to be saying that there is no need to substantiate the harms through demonstration or evidence and the reason for this is that it may not be possible to substantiate them. Put another way, because it may not be possible to substantiate the harms, there is no need to substantiate them when taking them into account.

The second explanation is that the Government meant *in advance* of evidence being collated through comparative studies with other countries in which sex-selection is practised. Throughout the debates and public consultations that had occurred before the Select Committee's report, those seeking to restrict sex-selection for non-medical reasons had shown

³⁸⁵ Pennings suggests that certain methods of sex-selection could have been permitted in order to gather evidence of the psychological and medical impacts, see Pennings, 'Sex Selection, Public Policy' (n 313), 268. See also: Harris, 'Rights and Reproductive Choice' n 329 30-31; John A Robertson, 'Gender Variety as a Valid Choice: a Comment on the HFEA – Response to Edgar Dahl's 'The Presumption in Favour of Liberty'' (2004a) 8 *Reproductive Biomedicine Online* 270, 270 <<http://www.ncbi.nlm.nih.gov/pubmed/15038891>> accessed on 26 August 2013; a similar suggestion, of licensing and monitoring around one million procedures, was made in Harris, 'No Sex Selection Please' (n 227) 288.

a real willingness to engage with the impact of sex-selection in countries, such as India and China, where the consequences of the practice had been socially detrimental.³⁸⁶ However, these debates had failed to look beyond the superficial effects of sex-selection to the cultural, social and economic context in which the practice operates in those countries. At certain points they also failed to acknowledge that methods such as sex-selective abortion and infanticide were widely used in those countries and those methods were not even being discussed or considered in the UK.³⁸⁷ In direct contrast to this, the debates generally overlooked evidence from jurisdictions in which sex-selection for non-medical reasons is permitted and has worked.³⁸⁸ Sweden is one such jurisdiction that has pursued a liberal approach to the issue. However, the only investigative work into Sweden's approach throughout the debates was done by the House of Commons Science and Technology Select Committee as part of its inquiry.³⁸⁹

The Government, in this paragraph, goes on to explore the casualties of the potential harm whom it characterises as being worthy of consideration. It asserts that consideration of harms to society and patients *must* include consideration of *potential* harms to *future* offspring. Therefore, it demands that consideration of potential harm to potential future persons is necessarily part of considering the potential harm to society and individual patients. It gives no justification for this assertion.

The Government then builds further on this assertion by setting out the weight that must be given to the consideration of potential harms to potential persons arising out of the treatment:

³⁸⁶ The most notable example is the weight placed on the issue by the HFEA during its 2002-03 consultation process: *Choice and Responsibility* (n 95) 8 and 26; *Options for Regulation* (n 75) 11 and 13. The social detriments in the north of India will be discussed in chapter 6.

³⁸⁷ This issue will be explored further in chapter 6.

³⁸⁸ By worked, I mean that no significant harm has manifested as a result of the procedure.

³⁸⁹ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 4, para 5.

it states that their welfare requires the ‘utmost’ attention. The use of the word *utmost* appears to place the welfare of these potential persons above the impact of such technologies on any other persons to be considered, namely patients, (meaning the mother and, potentially, the father) and society as a whole. In doing so, the importance attributed to the future offspring – as contained in the assertion that considerations of harms to society and patients must include considerations of potential harm to future offspring – has been elevated to a position of paramount importance. However, the Government provides no justification for this.

The Government’s reason for not providing a justification for its position may be that there does not appear to be one. As set out above, at no point, during the debates on reproductive technologies, has the law afforded foetuses, (let alone embryos), a status anywhere near that of a person who has actually come into existence through birth. Even through employing a precautionary approach, there is no justification for according greater, or even equal, weight to potential persons. On any reading of the precautionary principle, the rights of the mother will always override any rights accorded to the foetus. This is especially so at the stage at which PGD occurs, as the potential person or ‘agent’ is at such an early stage in its development.

(d) Conclusions

This chapter has examined the reasoning behind contrasting recommendations made by the HFEA and the Science and Technology Select Committee in their respective reviews on sex-selection, as well as considering the Government’s response to the conflict. The principles of harm and precaution, in particular the interpretation of the latter, were central to the conflict.

In relation to the HFEA, its application of potential harms and its concession to its own perception of public opinion resulted in it supporting the continued prohibition of sex-selection for non-medical reasons. The HFEA sought to use the harm principle as its central justification for prohibiting the procedure. However, not only did the alleged harms fall short of actually constituting 'harm' within the definitions provided by Feinberg, the Children Act and the HFE Act 2008, contrary to the essential requirements of the harm principle, there was also an absence of evidence that these alleged 'harms' would ever even materialise. Rather than accepting and addressing this void, either by producing the requisite evidence or by refraining from imposing coercive measures until such time as this evidence could be produced, the HFEA adopted a third approach. The HFEA attempted to circumvent the need for evidence on the basis that, in the opinion of the majority of people, that was what should be done. This is wholly unacceptable for at least two reasons. Firstly, according to the harm principle, coercive measures cannot be used against an individual on the basis of the opinions of others. People are entitled to their own opinions, but cannot forcibly impose them on others. By employing such an approach, the HFEA was using the harm principle as a powerful justificatory tool without complying with its safeguards. Secondly, and in any case, the HFEA's presentation of public opinion was misleading as it was unrepresentative.

The need to justify this approach was cloaked further by two elements. Firstly, it interpreted the precautionary principle to mean that only total prohibition would suffice in order to deal with the evidential uncertainty. Secondly, it reversed the burden of proof under the harm principle. The result of the adopted approach is that the foundations upon which the blanket ban rests are unstable as they are riddled with voids which have not been filled. But, rather than the HFEA having to justify how and why it constructed the justificatory structure in this

manner, it is for those who object to being coerced and restricted to prove their case. According to the HFEA's reasoning, it will not be enough for those people to reveal the fragility of the case against them, they will need to actively demonstrate that there are benefits to their proposals and, furthermore, that those benefits are *demonstrable*.

The Committee, in its 2005 review, considered that whilst the HFEA's concern as to potential harms was legitimate, the way in which it dealt with the evidential uncertainty upon which those concerns were based was not. Neither the precautionary principle, nor hostile public opinion, justified the prohibition. Caution would be satisfied through regulation and vigilance. This approach was dismissed as 'extreme' without any real examination of the points raised. The flaws in the HFEA's reasoning and the strengths of the Committee's stance were never fully revealed during the debates through in depth analysis. The Government, without a firm logical foundation, adopted a similar stance to the HFEA. Precaution, it felt, demanded prohibition. It appears to have accepted the HFEA's recommendations at face value. Consequently, the current legislative ban rests upon unsatisfactory foundations.

Chapter 4 will now consider (a) whether these principles were correctly interpreted and (b) whether they were the correct principles to have applied. Chapter 4 will also consider the other two elements upon which the ban was based: firstly, the objections to the procedure and the merits of such objections and, secondly, the structuring of the debate around the reasons for which the procedure was sought and the way in which this stifled the depth of analysis of the issues.

CHAPTER 4

AN EXPLORATION OF EMERGING THREADS

Through the analysis of the history to the 2008 Act in chapters 2 and 3, three elements have emerged as requiring further examination: firstly, it must be determined whether the principles of harm and precaution, putting aside the inconsistency of their application and interpretation, were the correct principles to apply to sex-selection; secondly, the objections levelled against sex-selection for non-medical reasons must be examined; and finally, the division of sex-selection according to its reasons requires further exploration.

(a) Principles of Harm and Precaution

Whether the dual principles of harm and precaution were the correct principles to apply to the issue of sex-selection will be determined by how well they dealt with the main issue which arose out of the debates, namely, the potential harms to which sex-selection for non-medical reasons could give rise.³⁹⁰ This is a question of relevance. How relevant the principles were to the issue is dependent upon how far they were able to address the fundamental elements of potential harm.

The harm principle addresses the central issues at play in the potential harms objection. It deals with liberty and the legitimate restraints upon liberty, of which harm is arguably the only one.³⁹¹ Putting aside the manner of its application and interpretation, it is not disputed

³⁹⁰ Whilst many other issues arose throughout the debates in the form of objections to the procedure, as can be seen in the section above, many lacked validity, and others, such as potential sex discrimination, were not consistently placed as central to the debates.

³⁹¹ According to Mill.

that the harm principle was correctly employed.

The relevance of the principle of precaution to the issue can be seen from the purpose for which it was employed. The principle was used in an attempt to resolve the problem of evidential uncertainty. No evidence was produced by the HFEA or the Government to substantiate the assertion of potential harm and it appears that, through their own admission, no such evidence actually existed.³⁹² The lack of evidence of potential harms was clear, but opponents of sex-selection for non-medical reasons, nevertheless, advanced arguments resting upon the absent evidence. The principle of precaution provided means through which the need for evidence could be defeated. It was, therefore, relevant to this element of the potential harms argument. Therefore, the question is not so much whether the principle of precaution was the correct principle to employ, as it is undeniable that a need existed to deal with evidential uncertainty in the circumstances, but whether the principle should have been applied and interpreted in the manner in which the HFEA and the Government interpreted it.

(i) Interpretation

Having established that the principles were the correct principles to employ, we can now consider what would have been the correct manner in which to interpret them. The first point is uncontroversial. The principles must be applied and interpreted consistently. Any interpretation of a principle must be maintained throughout the debates surrounding the issue. Further, if both principles, consistently interpreted, are to be applied to the issue of potential harm at one stage of debate, they must consistently be applied to the issue at every stage.

How, then, should the principles have been interpreted? I will deal first with the precautionary

³⁹² 'potential harms that should be taken into account may not necessarily be susceptible to demonstration and evidence in advance', *Human Reproductive Technologies and the Law: Government Response* (n 153) 7, para 7.

principle. Several points need to be made in this regard. Firstly, the precautionary principle was developed in the context of environmental ethics in order to deal with evidential uncertainty in cases where inaction could lead to environmental disasters.³⁹³ There was no recognition of this fact by those who sought to rely upon the principle. Given its origins, the precautionary principle cannot validly be lifted from its area of operation and applied, in the same manner, within a completely different context. In the environmental sphere the principle operated to aid the prevention of large-scale disasters affecting the environment in which we live. Assisted reproduction is a far cry from this original context. It is instructive for the purposes of this discussion to take the argument against sex-selection at its highest and accept that, theoretically, it is possible that a large number of couples would decide to use PGD to select the sex of an embryo for non-medical reasons. If this happened, the alleged harms of sex-selection could, theoretically, occur on a wide scale.³⁹⁴ At their worst, these consequences would include: a distorted sex ratio amongst certain ethnic minorities in the UK;³⁹⁵ offence being caused to those who do not want others to select the sex of their child; and a general ‘feeling’ that certain people are opting to make choices in relation to their children, and/or future children, which some consider to be discriminatory. It cannot seriously be suggested that these consequences would give rise to anywhere near the same level of damage as an environmental disaster would. There is no evidence, even if taken at its highest level, to suggest that the consequences of permitting the procedure would be so harmful that the most

³⁹³ Kaiser (n 12) 202.

³⁹⁴ It should be noted that this thesis does not accept that permitting the procedure would give rise to this in reality. It is evident from both the HFEA’s own opinion polls, (if accepted to be as representative as claimed), and from the number of couples undergoing PGD at present, that the number of couples taking up the option of sex-selection within the UK would be miniscule. The number of patients undergoing the procedure for non-medical reasons would be smaller still.

³⁹⁵ The studies which will be cited in chapter 6 demonstrate that there is no significant sex preference for either boys or girls amongst the general UK population. Therefore, even if large numbers of the general UK population were to use sex-selection for non-medical reasons via PGD, it would be highly unlikely to give rise to a sex ratio imbalance. In any case, chapter 6 will argue that permitting the procedure via PGD would not give rise to a sex ratio imbalance even amongst ethnic minorities which display son preference, (namely those of Punjabi ethnicity), as so few people within these groups display strong son preference within the UK and those who do would be unlikely to have the financial means to pay for PGD.

extreme precautionary measure, that of total prohibition, should be employed.

The House of Commons Science and Technology Committee, whilst accepting that the precautionary principle should be employed to deal with the evidential uncertainty, attempted to tailor its interpretation of the principle to reproductive technologies. It placed reproductive technology within the context of medical law and judged the application of precaution according to medical standards, as opposed to environmental standards. Looking at the manner in which precaution was applied within the medical sphere, the Committee concluded that as precaution has never meant “proceed only where there is evidence of no harm”, the level of precaution required under the precautionary principle within the medical context meant ‘that alleged harms to society or to patients need to be demonstrated before forward progress is unduly impeded’.³⁹⁶ This was later dismissed by the Government with very little in the way of legitimate justification. At the very least, there should have been more recognition by those seeking to rely upon the precautionary principle of the constraints upon its applicability and interpretation, given its origins and their intended application of it.

The second point is that the precautionary principle was interpreted by the HFEA and the Government in such a manner that the only measure consistent with precaution was total prohibition. This is not an accurate depiction of the ethos of the precautionary principle. The principle requires that precautionary measures be taken. This requirement can be fulfilled in many ways. Only one of those ways is blanket prohibition. Precautionary measures also include limiting, regulating or licensing an activity in order to control and monitor the impact of an activity.³⁹⁷ However, the HFEA’s and the Government’s interpretation of the principle failed to recognise these options as a viable way forward. Where the option of interpreting the

³⁹⁶ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 22, para 47; 175, rec 3.

³⁹⁷ Martin (n 16) 282-283.

principle in a more open manner was flagged up, it was quickly glossed over. The most notable example of this was the Government's complete dismissal of the Science and Technology Select Committee's interpretation of precaution being satisfied by tight oversight and careful regulation until such time as the harms were substantiated by evidence.³⁹⁸ The Government offered no explanation for its interpretation of the precautionary principle. As a result, the debates concluded with the adoption of the most draconian of the preventative measures available, the blanket ban on sex-selection for non-medical reasons.

In relation to the harm principle, little can be criticised about the manner in which the principle itself was initially interpreted. The HFEA set out the harm principle in a manner which was generally consistent with Mill's definition.³⁹⁹ The problems arose with the way in which it was subsequently applied, especially where it came into contact with the, often conflicting, precautionary principle.

(ii) Application

The main area of conflict between the principles of harm and precaution is the burden of proof. The harm principle places the burden of proof upon those seeking to restrict liberty,⁴⁰⁰ whereas the precautionary principle generally places it upon those calling for new developments.⁴⁰¹ Given that it has been concluded above that both principles were rightly employed, an issue now arises as to which principle's placement of the burden of proof should take priority.

³⁹⁸ *Human Reproductive Technologies and the Law 5th Report I* (n 140) 22, para 47; *Human Reproductive Technologies and the Law: Government Response* (n 153) 7, para 7.

³⁹⁹ '...the decision to have children... is an area of private life in which people are generally best left to make their own choices and in which the state should intervene only to prevent the occurrence of serious harms, and only where this intervention is non-intrusive and is likely to be effective,' see *Options for Regulation* (n 75) 34, para 132.

⁴⁰⁰ Feinberg, *The Moral Limits of the Criminal Law* (n 22) 9.

⁴⁰¹ Lemons (n 14) 230.

It should be noted that the principles are not necessarily opposed on this issue. The House of Commons Science and Technology Select Committee, like the HFEA, adopted the dual approach of applying both the harm principle and the principle of precaution. It interpreted the precautionary principle in the medical sphere as never having meant “proceed only where there is evidence of no harm”, as this would have greatly stifled medical advances. It concluded that a rational approach was required to risk assessment and management.⁴⁰² In light of this the Committee concluded that the level of precaution required under the precautionary principle meant ‘that alleged harms to society or to patients need to be demonstrated before forward progress is unduly impeded’.⁴⁰³ It, therefore, felt that the burden of proof to show harm should be on those who oppose sex-selection for social reasons using PGD.⁴⁰⁴ Consequently, if we adopt the Committee’s interpretation of the precautionary principle, the burden of proof employed by the two principles can be reconciled. According to this interpretation, both principles demand that the advocates of coercion prove their case.

However, if the HFEA and Government’s interpretation of the precautionary principle is adopted the principles are clearly opposed to one another on the issue of the burden of proof. This interpretation demands, not only that the burden of proof is placed upon those calling for new developments, but that they show demonstrable benefits of the procedure.

I will explore the consequences of the latter interpretation of the precautionary principle’s burden of proof, as that is where the controversy lies. There is no unequivocal answer to which interpretation should take priority. It is a matter of weight. The principle that succeeds in establishing its burden of proof should be the principle to which we can attach the most weight on the basis of: firstly, its relevance, that is, the extent of its applicability to sex-

⁴⁰² *Human Reproductive Technologies and the Law 5th Report I* (n 140) 123, para 276.

⁴⁰³ *ibid* 22, para 47; 175, rec 3.

⁴⁰⁴ *ibid* 64, para 142; 179 rec 30.

selection; and secondly, its overall validity, that is, the extent to which its version of the burden of proof conforms with existing settled legal principles.

The former of these requirements requires us to consider the extent to which each of the principles can be applied, unaltered, to the issue of sex-selection. It has been established above that the applicability of the precautionary principle is limited due to the original context in which it was developed. Whilst this does not preclude the application of precaution to sex-selection, it does limit its scope. The harm principle, on the other hand, is highly relevant and wholly applicable to sex-selection. This adds weight to the harm principle's application of the burden of proof. However, this is not in itself conclusive.

We must consider, then, the second point, the extent to which each principle complies with the rules of established law. In the criminal law the burden of proof is always on those seeking to restrict a person's liberty, as reflected in the traditional phrase that a suspect is 'innocent until proved guilty'. Thus, the criminal law lends support for applying the burden of proof in line with the harm principle.

Within the context of civil law, the analogy is more difficult to draw. The burden of proof is generally upon the party bringing the action. This could be interpreted in two ways in the context of sex-selection. Those bringing the action could represent people seeking sex-selection, or it could represent those seeking to place restrictions on the availability of the procedure.

The key question is, therefore, whether this area should be looked at from the perspective of the criminal law or civil procedure. There are two ways of looking at this question, as there

are two ways in which the matter could be brought before the courts. The first way is by looking at what the consequences would be of a clinician intentionally and deliberately performing sex-selection for non-medical reasons, in breach of the current statutory prohibition. The second way of considering the question is by looking at how clinics and patients would go about seeking sex-selection for non-medical reasons in anticipation of the act being carried out, as opposed to retrospectively facing the consequences of performing the procedure.

In relation to the first scenario, of a doctor deliberately carrying out the procedure, there would clearly be investigations and action taken by the HFEA, as the clinic would be in breach of the terms of its licence. The licence held by the clinic could be revoked or suspended by the HFEA Licence Committee.⁴⁰⁵ Further, it is highly probable that the HFEA would refer the matter to the General Medical Council (GMC) so that it could also deal with the doctor in question according to its internal procedures.⁴⁰⁶ The GMC investigations could be termed quasi-criminal. Whilst the civil standard of proof applies, (the balance of probabilities), the burden of proof is still on the GMC to prove that the doctor is guilty of the action with which he or she is accused. The accused doctor does not have to prove anything. He or she is innocent until proved guilty.⁴⁰⁷

Further, it appears that the doctor in question could also be prosecuted through the criminal courts. The 1990 Act, as amended by the 2008 Act, makes provision for certain actions in this

⁴⁰⁵ HFEA, 'Compliance and Enforcement Policy' (1st October 2011), para 4.3
<<http://www.hfea.gov.uk/docs/CompEnforPolicy2011.pdf>> accessed on 27 August 2013.

⁴⁰⁶ *ibid.*

⁴⁰⁷ See Medical Practitioners Tribunal Service, 'Information for Doctors whose Cases are Due to be Heard by the Fitness to Practise Panel', (June 2013) General Medical Council, at p. 25 <http://www.gmc-uk.org/463_MPTS_information_for_doctors.pdf_48806882.pdf> accessed on 26 August 2013.

context to constitute criminal offences.⁴⁰⁸ Section 41(1)(b) provides that where a clinician ‘does anything which, by virtue of section 3(3) of this Act, cannot be authorised by a licence, [he or she] is guilty of an offence and liable on conviction on indictment to imprisonment...’ Section 3(3)(c) of the 1990 Act⁴⁰⁹ provides that a licence cannot authorise ‘keeping or using an embryo in any circumstances in which regulations prohibit its keeping or use’. Schedule 2 of the Act clearly prohibits the performance of sex-selection for non-medical reasons. The procedure, therefore, falls within s 3(3)(c) of the Act. By virtue of s 41(1)(b), therefore, the intentional performance of sex-selection for non-medical reasons would constitute a criminal offence.⁴¹⁰

I will now consider the second way in which the matter could be brought before the courts, which is seeking sex-selection for non-medical reasons before the treatment has been carried out. The reality is that those seeking sex-selection have been forced into the position of having to challenge the law if they do not agree with the prohibition and they would, therefore, be the party bringing an action. However, the operative legislation at the time of the debates was the 1990 Act, which was not explicitly opposed to the procedure. The HFEA Codes of Practice prohibited the procedure and any challenge would have had to have been brought against the HFEA. It has been argued in chapter 3 that the basis upon which that prohibition rested was significantly flawed, and that any such prohibition is, and was, unjustified and illegitimate. Given that, it is arguable that those seeking sex-selection for non-medical reasons could be seen as protecting their liberty against illegitimate state interference. Viewed from this perspective, the position of those seeking to restrict sex-selection should be

⁴⁰⁸ The amendments made by section 29 of the 2008 Act to the 1990 Act are not significant for the purposes of this discussion. I have not, therefore, set them out.

⁴⁰⁹ As amended by section 3 of the HFE Act 2008 and section 8 of the Human Fertilisation and Embryology (Quality and Safety) Regulations 2007.

⁴¹⁰ Where such a breach amounted to a criminal offence, the HFEA would refer the matter to the police for criminal investigation, see ‘Compliance and Enforcement Policy’ (n 405) para 4.3.

seen as analogous to a party bringing a civil action, in order to prohibit the exercise of such liberty.

This flags up an important distinction, which is the difference between positive and negative rights. It is generally accepted that individuals and couples ought to have some sort of right to reproductive liberty,⁴¹¹ although the strength and extent of this right is heavily disputed. The right to reproductive liberty has been discussed extensively. Robertson had defined the right, at its most general level, as ‘the freedom either to have children or to avoid having them’.⁴¹² He sees it as a negative right against state interference. It is ‘a primary liberty because it is central to personal identity, dignity and the meaning of one’s life’.⁴¹³ Savulescu has outlined the right in terms of ‘the freedom [of individual couples] to act on their own value judgment of what constitutes a life of prospect’.⁴¹⁴ Dworkin has outlined the right as ‘a right to control their own role in procreation unless the state has a compelling reason for denying them that control’.⁴¹⁵ Whereas Harris terms it, at the very least, a moral claim.⁴¹⁶ The strength of this right is debatable. Nevertheless, it has been established in chapter 3 that the rights of the mother take priority over the rights of the embryo. Therefore, even if taken at its weakest, the right of a mother to reproductive liberty should take priority over any rights that may be attributed to an embryo.

⁴¹¹ ‘...rights arguments can be suspect in situations of rapid technological change where major social consequences are involved. In these circumstances, rights are better seen as conclusions of complex arguments and not premises which represent compelling moral conclusions. In rapidly developing fields such as reproductive technology, the questions to be raised are about what rights we *ought* to have rather than what rights we *do* have’, in Campbell, ‘The Weak Moral Basis’ (n 323) 23.

⁴¹² Robertson, *Children of Choice* (n 266) 22. However, it must be noted that Robertson does qualify the extent to which certain reproductive technologies fall within the ambit of reproductive liberty, ‘futuristic practices such as non-therapeutic enhancement, cloning, or intentional diminishment of offspring characteristics may so deviate from the core interests that make reproductive liberty meaningful as to fall outside the protective canopy of reproductive liberty’, (34).

⁴¹³ Robertson, *Children of Choice* (n 266).

⁴¹⁴ Julian Savulescu, ‘Deaf Lesbians, Designer Disability and the Future of Medicine’ (2002) 325 *British Medical Journal* 771, 772.

⁴¹⁵ Ronald Dworkin, *Life’s Dominion* (Alfred A Knopf 1993) 148.

⁴¹⁶ Harris, ‘Sex Selection and Regulated Hatred’ (n 49) 293.

Whether this amounts to a positive right or negative right depends on what is being asked for. It depends on whether the right being sought is a right to positive assistance from the state, or a negative right against interference.⁴¹⁷ To put it another way, are those seeking sex-selection demanding that the state provides the services and support to make sex-selection for non-medical reasons possible, or are they attempting to undergo the procedure and merely asking the state not to intervene?⁴¹⁸

A line is often drawn here between ‘natural’ reproduction, where a couple attempt to produce a child with no direct assistance by the state and assisted reproduction, in which the couple ask the state to provide them with a service.⁴¹⁹ Thus, it appears that couples undergoing assisted reproduction are asserting a positive right against the state, whereas no such right is asserted in the course of natural reproduction. This may well be an accurate depiction of the couple who approach the state-funded NHS and request PGD. However, it is less applicable when we look at the private sector of medicine. In the context of private treatment, the state is not being asked to provide the service, a professional individual, or business, is being paid to provide the service and the state, in the context of sex-selection for non-medical reasons, would be being asked to refrain from interfering with this private bargaining process.⁴²⁰ This

⁴¹⁷ Schwartz sums up the position thus: ‘Negative liberty is “freedom from”... Positive liberty is “freedom to”’, in Barry Schwartz, *The Paradox of Choice: Why More is Less* (Harper Collins Publisher 2005), 3.

⁴¹⁸ John Robertson advocates that ‘...procreative liberty is a negative right. It means that a person violates no moral duty in making a procreative choice, and that other persons have a duty not to interfere with that choice. As a matter of constitutional law, procreative liberty is a negative right against state interference with choices to procreate or to avoid procreation,’ in Robertson, *Children of Choice* (n 266) 23.

⁴¹⁹ John Robertson draws a distinction between whether a person can conceive and whether a person can use certain means of conceiving. He argues that: ‘Choices about who may conceive, bear or rear a child are distinct from choices about the conduct that occurs in the process of conceiving, bearing and rearing. In other words, arguably, the freedom *to* procreate is distinct from the freedom *in* procreation’, see: John A Robertson, ‘Procreative Liberty and the Control of Conception, Pregnancy, and Childbirth’ (1983) 69 *Virginia Law Review* 405, 410. It has been argued above that potential parents should be able to exercise freedom in relation to sex selection where there is no evidence that such conduct would give rise to significant harm to others.

⁴²⁰ There is dispute as to whether the use of reproductive technologies should be regarded as a positive or negative right. Sarah Elliston suggests that it may be seen as a negative right because restrictions on the provision of such treatments interferes with ‘the possible choices of the medically infertile’, see Sarah Elliston,

can be illustrated by using the example of the fictional Mr and Mrs *A*.

Mr and Mrs *A* wish to undergo sex-selection for non-medical reasons at a private clinic. They approach Dr *X*, the owner of a private fertility clinic in London. Dr *X* was born, grew up in, and was educated, entirely in Germany. He has used his own resources from Germany to set up his private clinic and he is the only clinician who works there. Therefore, no arguments of misallocation of UK resources arise.⁴²¹ Mr and Mrs *A* agree a price for the procedure with Dr *X* that all parties are content with. The procedure is ready to be performed. Dr *X* can lawfully perform the IVF and PGD elements of the procedure. The only element which he cannot perform is the selection on the basis of sex for non-medical reasons. The only thing standing in their way is the state's prohibition of this element of the procedure.

This example illustrates the request that those seeking sex-selection for non-medical reasons make from the state. It is a request to 'step-aside', as opposed to a request to provide any assistance. The couple want to be able to receive a procedure for which they provide their consent and payment, without interference from the state. An obligation on the state to aid them in doing so would grant a positive right to those seeking the treatment. Whereas a negative right demands, merely, that the state refrains from interfering with a private

'The Welfare of the Child Principle and the Use of PGD: Selecting for Disability', in Sheila A M McLean and Sarah Elliston (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013), 119. However, others have construed reproductive technologies, in particular in the context of sex-selection via PGD, as a positive right: 'There is a distinction between the exercise of liberties free from restrictions from other parties and an exercise that involves others. The liberty to create the child, free from interference from others, is not the same as the right to choose the sex of a child via PGD, which requires the *intervention of professional third parties* to carry out the procedure', see Don Chalmers, 'Regulatory Legitimacy: the Case for Controlling and Restricting Access to PGD for Sex-Selection Purposes', in Sheila A M McLean and Sarah Elliston (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013), 162. Emily Jackson views NHS infertility treatment as involving, in part, a positive right as it involves asserting a right to resources. However, she discusses privately funded IVF in terms of a negative right to be left alone, see Jackson, 'Conception and the Irrelevance of the Welfare Principle' (n 282) 202 and 184 respectively. It will be argued below that in the context of sex-selection, the right should be construed as a negative right, provided that the treatment is paid for privately.

⁴²¹ Although there will always be arguments of some tenuous link between the doctor's practice and state-provided resources, the issue of misallocation of resources has been dealt with and dismissed above.

individual's endeavours to undergo the treatment.⁴²² This example demonstrates a negative right. Were it not for the existence of the state prohibition, the couple would be able to go about their business in this area without asking the state for anything.

That is not to say that this negative right exists in an absolute and inviolable form. But the point is that, to the extent that it does exist in this context, it should be construed as a negative right, a right of non-interference. The effect of it being a negative right is that it is those who seek to interfere with the right are in a position analogous to the party pursuing an action in a civil claim, because the interferer is the party seeking to alter the status quo. In other words: (1) a person is in possession of a negative right not to be interfered with; (2) they are content for their right to continue in the manner in which it currently exists; (3) another party wishes to interfere with this negative right, contrary to its very substance (which is non-interference); (4) the interference or change that is sought by the interferer is contrary to the wishes of the party in possession of the right; (5) the party seeking to interfere must bring an action justifying this interference, as it is this party that seeks to change the situation; (6) the party possessing the negative right is placed in the position of defending its right; and therefore, (7) whilst the interferer is asserting a claim, (as it wishes to interfere with an existing right), the party possessing the right is in an analogous position to a defendant in a civil action. The burden of proof in such a scenario is always placed upon the party bringing the action to prove their claim.⁴²³ Therefore, the burden of proof is on the interferer. The party in possession of the negative right is the person seeking sex-selection and the state is in the position of the interferer. Therefore, according to this analysis, the burden of proof should be placed upon the state. Such an approach would be consistent with both civil and criminal law.

⁴²² Pennings sums this concept up in the context of family balancing, 'people have the right to try to obtain this family composition without interference from others and from the state but there is no obligation on the part of others to help parents in achieving this goal,' in Guido Pennings, 'Family Balancing as a Morally Acceptable Application of Sex Selection' (1996) 11 *Human Reproduction* 2339, 2341.

⁴²³ There are some exceptions to this but they are not relevant here.

However, there is a flaw in this analysis. It pre-supposes that reproductive liberty is either exclusively a positive, or negative, right. There is a possibility that it is either, neither a positive nor a negative right, or that it is both types of right. The truth is that it can be interpreted to fall within both of these two scenarios. Reproductive liberty in this context can be interpreted as a right that requires potential parents to be left alone to make their own bargains and choices, but it can also be seen as a right to be assisted by someone in order to conceive the child that they desire. On the other hand, reproductive liberty could be viewed outside of this context altogether, simply as a right to be able to reproduce. If the right is viewed in either of these two alternative contexts, the above analysis would not apply to the placement of the burden of proof.

But even in this scenario, the worst-case solution is that the burden would fall upon the claimant in accordance with civil law, the claimant being the person seeking sex-selection for non-medical reasons. However, this still would not place the demands upon those persons as high as the HFEA did. The applicable standard of proof in such circumstances would be the balance of probabilities. This would require the proponents of sex-selection to show that, on balance, the benefits of the procedure are more likely than not to occur when balanced against the potential negative consequences. This standard is significantly lower than the ‘demonstrable benefits’ required by the HFEA.

Nevertheless, it could be argued the question should not be considered in the context of criminal or civil law, but in some other manner. It is conceded that there may be other ways of considering the issue.⁴²⁴ What this analysis provides is *a* manner in which to approach the

⁴²⁴ For example, Robertson agrees that the burden of proof should be on those seeking to curtail reproductive liberty to show that the reproductive choices in question would give rise to ‘such substantial harm that they could

issue.

(b) Objections

There were four main areas of objection raised against sex-selection for non-medical reasons. The first set of objections related to harm to individuals or society. This has already been considered at length and will not therefore be considered in this section; the second related to discrimination; the third set of objections were in relation to public policy, including imbalances in sex ratios, resource allocation, the slippery slope to eugenics and setting an inappropriate example for other countries; and the final set of concerns related to religious objections.

The first task is to test the veracity of these objections in order to establish which objections warrant further, in depth, consideration.

(i) Discrimination

There are numerous definitions of discrimination. The vast majority focus on the idea of prejudicial treatment of a person based on his or her membership of a particular group.⁴²⁵ Section 1(1)(a) of the Sex Discrimination Act 1975 provides that a person discriminates against a woman if ‘on the ground of her sex he treats her less favourably than he treats or

justifiably be limited’ He argues in support of this conclusion on the basis that ‘control over whether one reproduces or not is central to personal identity, to dignity, and to the meaning of one’s life... [they] are thus personal decisions of great import that determine the shape and meaning of one’s life. The person directly involved is best situated to determine whether that meaning should or should not occur’, in John A Robertson, Robertson, *Children of Choice* (n 266) 24.

⁴²⁵ Anthony Giddens, Mitchell Duneier, Richard P. Applebaum and Deborah Carr, *Introduction to Sociology*, (7th edn W W Norton and Co Inc 2009), 324.

would treat a man'.⁴²⁶ Therefore, for the purposes of the discussion that follows, I will treat sex discrimination as involving prejudicial and/or less favourable treatment.

Sex discrimination is a very wide area and there are several ways in which it can be understood in the context of sex-selection using PGD. We need to divide and treat separately discrimination against embryos, and potential discrimination against females who are actually in existence (having been born). If we fail to acknowledge this distinction we will encounter the difficulties discussed earlier in relation to harms.

In relation to the former, the argument can only be that discrimination occurs against the embryos that are *not* selected. It would make no sense to claim that the selected embryo has been discriminated against as, without having been selected, it would not have been given the opportunity to come into existence.⁴²⁷ Therefore, it has not been treated less favourably or prejudicially through being selected.⁴²⁸ It is possible to advance an argument that the *unselected* embryos are discriminated against. However, this lacks merit in light of the fact that embryos are routinely discarded and destroyed during the IVF process, even where there is no sex-selection. To argue against sex-selection on this ground would be to argue against all forms of IVF. Whether or not they are being treated prejudicially or less favourably is of

⁴²⁶ The section continues: or

(b) he applies to her a requirement or condition which he applies or would apply equally to a man but—

(i) which is such that the proportion of women who can comply with it is considerably smaller than the proportion of men who can comply with it, and

(ii) which he cannot show to be justifiable irrespective of the sex of the person to whom it is applied, and

(iii) which is to her detriment because she cannot comply with it.

⁴²⁷ Derek Parfit, *Reasons and Persons* (Oxford University Press 1984), 351-355. Parfit notes that were an individual not conceived within a month of the time at which he or she was conceived, he or she would not exist as it is a basic fact of the human reproductive system that the specific set of cells which would have made up that individual would no longer be available. This is equally true in the context of PGD. Were the selected embryo not implanted, that embryo (assuming that it was not donated to another couple for implantation) would be destroyed and would never come into existence as a resulting child.

⁴²⁸ It could be argued that, where the embryo would develop into a resulting child who would suffer from an extremely painful and debilitating condition, its existence would be worse than its non-existence. However, it is highly unlikely that this would in fact occur. Therefore, it can safely be asserted that being brought into existence is not a detriment to it when compared to the other embryos that are not selected and selection does not therefore constitute discrimination against the selected embryo.

little significance when placed in the context of their routine destruction during many of the artificial reproductive procedures. This raises a more fundamental issue that these embryos never come into existence as persons having been born.⁴²⁹ To attribute pre-implantation embryos with the same interests as persons having been born would be to conflate *embryo* with *child*. This is problematic, as discussed in chapter 3. Embryos should not be granted the same status as a person, as has been accepted during the debates on sex-selection.⁴³⁰ At most, they may have an interest in continued existence in a tolerable environment. Where that interest comes into conflict with that of its mother, the mother's interest should clearly prevail. Since continued existence for the embryo can only be achieved through implantation inside its mother,⁴³¹ where its mother does not wish for it to be implanted inside her, her interest in rejecting its implantation should prevail. Therefore, the weight attached to the treatment of embryos at the pre-implantation stage is, and should be, minimal where that treatment involves their destruction. It does not make sense to argue that the embryo has interests sufficient to maintain a claim against discrimination.⁴³²

⁴²⁹ 'Choosing between existing people for whatever reason always involves the possibility of unfair discrimination because there will, inevitably, be people who are disadvantaged by the choice. Choosing which sorts of people to bring into existence or choosing which embryos or fetuses to allow to become persons can never have this effect because there is no one who suffers adversely from this choice.' John Harris, 'One Principle and Three Fallacies of Disability Studies' (2001) 27 *Journal of Medical Ethics* 383, 386.

⁴³⁰ In particular, see the Warnock Report (n 53) 63, para 11.17.

⁴³¹ Unless it is donated to another woman for implantation.

⁴³² Parfit discusses this issue in the context of whether causing someone to exist can benefit that person. He concludes that it is defensible to claim that causing to exist can benefit, as causing that person to exist is 'good' for that person. How good this is depends upon how good his life is. However, this is not to say that it would have been bad for a person not to have existed, as in that case, that person would have remained 'merely possible', rather than actual. Parfit's claim of existence being 'good' relates only to those persons who are, or would be, actual and not those who remain merely possible. He is 'not claiming that it is bad for possible people if they do not become actual'. In other words, starting to exist can only be good for a person when it actually happens, as then we are dealing with what is good or bad in respect of an actual person. It can then be said that being caused to exist was good for this person, as he would not otherwise have existed. However, we cannot claim that existence is either good or bad when it has not happened, because then we are not judging what is good or bad in respect of an actual person, as no person has come into existence. We are then dealing with merely possible persons who never become actual, see Parfit (n 427) 487-490. Applying this reasoning to unselected embryos, it could be argued that they are not being treated less favourably by omitting to implant them, as they are not in existence *as persons* at that point. Further, they never come into existence as actual persons and we cannot judge them as actual persons but merely possible persons. According to Parfit we cannot say that it was bad for them not to have become actual. Therefore, it cannot be argued that they were treated less favourably by not being selected.

In relation to the latter, discrimination is referred to in the broad sense, that sex-selection through the use of PGD will convey a wider social message about the roles and importance that 'should' be attributed to gender. One of the key questions that arises here is how best to fight discrimination against women, whether through restricting the reproductive choices available to women, (thus further curtailing their opportunities to determine what happens to their bodies), or through leaving their ability to exercise choice intact, and attempting to tackle discriminatory outcomes in other ways that do not involve coercion.⁴³³ These arguments will be developed further in chapter 7, where it will be argued that sex discrimination, when understood in the wider social context, should be dealt with through the employment of measures which do not restrict the reproductive choices that a woman may make.

(ii) Public Policy

The third set of objections concerned the public policy issues of: sex ratio imbalance; the setting of an inappropriate example to other countries; the misallocation of resources, (that sex-selection would be a waste of medical time, skills and resources); and the slippery slope to the selection of embryos on the basis of other characteristics, such as height and intelligence.

I will deal, firstly, with the argument that sex-selection for non-medical reasons will skew sex ratios in the UK. This argument has been based, throughout the debates, on the status quo in India and China.⁴³⁴ The disproportionately high percentage of males in comparison with

⁴³³ '... to maintain women as instruments of state reproductive policies, even for benign purposes, is itself sexist, exploiting existing inequalities that deny women control over their reproductive options,' in Bernard M Dickens, 'Prenatal Sex and Race Determination is a Slippery Slope: Author's Reply' (2004) 30 *Journal of Medical Ethics* 376, 376. 'It is better by far to champion freedom and to fight prejudice by other means', Harris, *Wonderwoman and Superman* (n 306) 161.

⁴³⁴ Campbell (n 70); *Options for Regulation* (n 75) 17, para 63; People Science & Policy (n 162) 39-41, para 5.6;

females in certain parts of these countries has been well-documented.⁴³⁵ At the heart of this is son preference. The desire for sons is so strong that they have been prepared to go to the lengths of sex-selective abortion, and historically even female infanticide, in order to secure this outcome. This desire is based upon many social, cultural and economic factors including, the need to provide dowries for daughters and the need to produce sons to care for them in old age. However, the argument that the same is likely to occur in the UK is misguided. These cultural, social and economic pressures are not generally present within the UK. Consequently, there is no significant preference for sons.⁴³⁶ Whilst studies suggest that son preference exists amongst those of Punjabi ethnicity within the UK,⁴³⁷ it only appears to be manifested to any significant degree amongst the less educated and more traditional sections of that community.⁴³⁸ It is arguable that this section of the community would be less likely to be able to afford PGD than the more educated sections of the community, (as the former are

HL Deb 28 January 2008, vol 471, col 483-4.

⁴³⁵ Perianayagam Arokiasamy, 'Sex Ratio at Birth and Excess Female Child Mortality in India: Trends, Differentials and Regional Patterns' in Isabelle Attane and Christopher Z Guilmoto (eds), 'Watering the Neighbour's Garden: The Growing Demographic Female Deficit in Asia' (Paris Committee for International Cooperation in National Research in Demography 2007) <http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012; Edgar Dahl, 'No Country is an Island: Comment on the House Of Commons Report Human Reproductive Technologies and the Law' (2005) 11 *Reproductive BioMedicine Online* 10, 10 <<http://www.ncbi.nlm.nih.gov/pubmed/16102276>> accessed on 26 August 2013; Isabelle Attane and Christopher Z Guilmoto, 'Watering the Neighbour's Garden: the Growing Demographic Female Deficit in Asia', (Paris Committee for International Cooperation in National Research in Demography 2007) <http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012; Christopher Z Guilmoto, 'Characteristics of Sex-Ratio Imbalance in India, and Future Scenarios' (4th Asia Pacific Conference on Reproductive and Sexual Health and Rights, Hyderabad, India 29 – 31 October 2007), 6-7 <<http://www.unfpa.org/gender/docs/studies/india.pdf>> accessed on 26 August 2013.

⁴³⁶ This has been borne out in several studies. A 2003 study by Dahl and others used a randomised telephone interview tool to pose questions to 1001 British men and women aged 18 years and over. The participants were asked whether, if given a choice, they would prefer their first-born child to be male or female. 73 per cent stated that they did not care. 16 per cent stated that they would prefer their first born child to be male and 10 per cent stated that they would prefer it to be female. The participants were then asked whether they would want: solely boys; solely girls; more boys than girls; more girls than boys; as many girls as boys; or whether they did not care. The results were as follows: 3 per cent wanted boys only; 2 per cent wanted girls only; 6 per cent wanted more boys than girls; 4 per cent wanted more girls than boys; 68 per cent wanted as many girls as boys; and 16 per cent did not care. Thirdly, the participants were asked whether, if they could only have one child, they would prefer to have a boy or a girl. 19 per cent stated that they would prefer to have a boy, 17 per cent would prefer a girl and 57 per cent did not care. See Edgar Dahl, Klaus-Dieter Hinsch, Manfred Beutel and Burkhard Brosig, 'Preconception Sex Selection for Non-Medical Reasons: a Representative Survey from the UK' (2003) 18 *Human Reproduction* 2238, 2238-2239.

⁴³⁷ As well as other ethnic groups which originate outside of Europe, see Liu, 'Social Aspects of >800 Couples' (n 278).

⁴³⁸ Culley, 'A Study of the Provision of Infertility Services' (n 332) 7.

likely to have lower incomes and less wealth). Therefore, only very few people of Punjabi ethnicity would display son preference to a degree strong enough to compel them to undergo the financial, physical and emotional trials of the procedure. But, ironically, these few people would be unlikely to have the financial means to pay for it. The risks of UK – Punjabi sex ratios becoming imbalanced due to the availability of sex-selection via PGD is therefore highly unlikely.⁴³⁹ In any case, it would be very easy to monitor and regulate the risk of sex ratio imbalance within the UK.⁴⁴⁰ The current system through which couples must proceed in order to seek fertility treatment provides an excellent tool through which such monitoring could be carried out. This is because IVF and PGD are only available through licensed clinics. Licensed clinics are easy to monitor as the HFEA knows exactly which clinics are offering fertility treatment and what sort of fertility treatment they offer. These clinics could be required to keep records of the numbers of patients requesting and conceiving male and female children. This information could then be passed onto the HFEA on an annual basis. Therefore, the argument that permitting sex-selection for non-medical reasons would skew sex ratios in the UK has not been substantiated with enough evidence to justify the ban.

The second argument to consider is that permitting sex-selection for non-medical reasons would detrimentally affect other countries by setting a ‘bad example’ for the governments of countries such as India and China and also for the general population in those countries. Several arguments can be levelled against this contention. Firstly, it is very optimistic to assume that the average couple in India embarking on sex-selective techniques will be aware

⁴³⁹ ‘Although it is “conceivable,” it is highly unlikely that hundreds and thousands of couples would employ sex selection for their first and only child to be a boy. Data from American and British “Gender Clinics” offering sperm sorting or preimplantation genetic diagnosis suggest that the only couples willing to subject themselves to an intrusive and expensive treatment for sex selection are couples who already have two or three children of the same sex and long to have one of the opposite sex.’ Edgar Dahl, ‘Sex Selection: Laissez Faire or Family Balancing?’ (2005) 13(1) *Health Care Analysis* 87, 89.

⁴⁴⁰ ‘... that sex selection ought not to be banned does not preclude regulating its practice.’ Dahl, ‘Procreative Liberty’ (n 348) 384.

of, let alone appreciate, UK law on sex-selection.⁴⁴¹ It is highly unlikely that UK law on the issue will encourage Indian couples not to embark on more extreme forms of sex-selection when Indian law prohibiting such procedures does not appear to deter them. Secondly, because of this lack of awareness and appreciation, it is highly unlikely that UK law, either prohibiting or permitting sex-selection for non-medical reasons, will alter India's sex ratio.⁴⁴² Thirdly, the legalisation of sex-selection for non-medical reasons using PGD would be an acceptance of PGD as a legitimate means by which to choose the gender of one's child. It would not sanction sex-selective abortions, nor would it sanction female infanticide.⁴⁴³ It is these more extreme forms of sex-selection that have contributed substantially to the sex ratio imbalances in India and China. This has been due to the fact that they are widely and very cheaply available in rural, as well as urban, areas.⁴⁴⁴ Fourthly, Dahl raises the argument that there is no moral justification for punishing UK citizens for the actions of Indian or Chinese citizens. In other words, the situation in India and China is clearly detrimental to girls and women in those countries. The actions of people involved in carrying out extreme forms of sex-selection, such as female infanticide, are abhorrent and deserve condemnation. However, it is not fair, nor morally justified to punish and restrict the liberty of UK citizens due to the actions of those people.⁴⁴⁵ Finally, India and China have laws prohibiting the use of extreme forms of sex-selection, yet the practices are still widespread. Therefore, the problems persist in these countries, despite any efforts by the UK to set a 'good' example by prohibiting the procedure. This lends weight to the argument that it is not the law that is the problem in India and China, it is wider social and cultural practice. These practices look set to continue

⁴⁴¹ Dahl, 'No Country is an Island' (n 435) 11; Wilkinson, *Choosing Tomorrow's Children* (n 304) 240.

⁴⁴² Dahl, *ibid*.

⁴⁴³ *ibid*; Wilkinson, *Choosing Tomorrow's Children* (n 304) 241.

⁴⁴⁴ Ronald Bailey, 'Sex Selection' (*Reason.com* 3 October 2001) <<http://reason.com/archives/2001/10/03/sex-selection>> accessed on 26 August 2013; — 'Sex Selection in India' (*Religion and Ethics Newsweekly* 1 June 2001) <www.pbs.org/wnet/religionandethics/week440/cover.html> accessed on 26 August 2013; Mara Hvistendahl, '160 Million Missing Girls' (*Sigmund, Carl and Alfred* 11 June 2011) <<http://sigmundcarlandalfred.wordpress.com/2011/06/11/160-million-missing-girls-%E2%80%99is-creating-a-new-endangered-species-women/>> accessed on 26 August 2013.

⁴⁴⁵ Dahl, 'No Country is an Island' (n 435) 11.

regardless of the laws and practices in the UK.

The third public policy objection was that sex-selection for non-medical reasons would be a misallocation of resources. It is highly likely that it would only be available when paid for privately.⁴⁴⁶ But even if we accept that this will still cost the NHS indirectly, by way of the ‘wasted’ costs of training medical staff who dedicate their energies towards this type of work, there are many methods that could be employed to circumvent these arguments. Pennings suggests that a ‘social compensation tax’ could be imposed on those undergoing the procedure to compensate for the extra burden upon time, skills and resources.⁴⁴⁷ In his explication of this potential tax, Pennings argues that one of its effects would be to reduce the number of applications for sex-selection for non-medical reasons. This element of the tax would conflict with an element of Mill’s harm principle, that to tax a socially undesirable activity ‘for the *sole* purpose of making [it] more difficult to be obtained, is a measure differing only in degree from their entire prohibition; and would be justifiable only if that were justifiable...’⁴⁴⁸ However, conflict would only arise if the purpose of the tax was to reduce the numbers of people opting for the procedure. If the main aim of the tax was to compensate for the resources used, no conflict would arise, even if this were not the only aim of the taxation.

In response to arguments that sex-selection for non-medical reasons would constitute a waste

⁴⁴⁶ ‘...making it legal does not mean there is a commitment to funding it.’ David McCarthy, ‘Why Sex Selection should be Legal’ (2001) 27 *Journal of Medical Ethics* 302, 305; ‘Just like a chef opening up a fancy restaurant offering French cuisine does not deprive us of our daily bread, so a doctor opening up a fertility centre offering sex selection does not deprive us of our basic health care. Provided their businesses are set up privately and their services are paid for privately, they don’t take away from anyone.’ Dahl, ‘The 10 Most Common Objections’ (n 107) 159.

⁴⁴⁷ Guido Pennings, ‘Questioning the Assumptions in the Debate on Assisted Reproduction: Comment on the House of Commons Report Human Reproductive Technologies and the Law’ (2005) 11 *Reproductive BioMedicine Online* 152, 153-4 <<http://www.ncbi.nlm.nih.gov/pubmed/16168206>> accessed on 26 August 2013; Guido Pennings, ‘A ‘Social Compensation Tax’ for Social Sexing’ (11 April 2005) *BioNews* 303 <http://www.bionews.org.uk/page_37795.asp> accessed on 26 August 2013.

⁴⁴⁸ Mill (n 36) 101, (emphasis added).

of medical time, skills and resources, the same could be said of cosmetic surgery.⁴⁴⁹ There are many cosmetic procedures that are not, strictly speaking, medically necessary, (or even medically desirable). However, they are widely permitted, even though they use a proportion of medical time, skills and resources. Furthermore, PGD is a relatively small addition to the procedure involved in standard IVF.⁴⁵⁰ Therefore, where a couple are already undergoing IVF, the extent to which PGD would impose an additional burden on medical time, skills and resources is not as pronounced as it first appears.

The final objection involved arguments that sex-selection for non-medical reasons create a slippery slope towards other forms of selection. In other words, it could lead to selection on the basis of considerations such as: hair colour; eye colour; height; intelligence; musical talent; or athletic ability. This objection rests upon other related concerns, such as the fear that the law would not be able to 'rein in' parental desires and societal expectations for the perfect child, raising the spectre of eugenics.

There are several reasons why this objection lacks merit. Firstly, we should look at whether the procedure itself is justified. We should not prohibit it on the basis of what the next step would be.⁴⁵¹ McCarthy uses the example of racist and sexist speech, which quite often does lead to 'highly objectionable' behaviour. Nevertheless, this speech is not made illegal. In fact, it is protected under the right to freedom of speech.⁴⁵²

Secondly, the progression down the slippery slope is far from inevitable. Pembrey points to

⁴⁴⁹ Dahl, 'The 10 Most Common Objections' (n 107) 159. Further, Dresser discusses the similarities between sex-selection and cosmetic surgery, in Rebecca Dresser, 'Cosmetic Reproductive Service and Professional Integrity', (2001) 1:1 *The American Journal of Bioethics* 11.

⁴⁵⁰ Pennings, 'Questioning the Assumptions' (n 447) 152.

⁴⁵¹ John A Robertson, 'Preconception Gender Selection' (2001) 1(1) *American Journal of Bioethics* 2, 5.

⁴⁵² McCarthy (n 446) 306.

the important distinction between sex and other characteristics. Sex can be determined through PGD, whereas it is currently medically impossible to determine traits such as intelligence or athleticism. Therefore, at present, there is actually no biological means by which a journey down the slippery slope could even be achieved.⁴⁵³

Thirdly, given that the public have expressed the opinion that they fear that sex-selection for non-medical reasons will open the door to eugenics, and given that this is not even medically possible at the present time, the issue appears to be more about education and understanding than anything else. This public fear could, therefore, be allayed by research and education. The same fears had arisen in relation to IVF when it first became possible. However, research helped to overcome such anxieties.⁴⁵⁴

Finally, in any case, it is possible to legally place a boundary at the selection of sex and not other characteristics.⁴⁵⁵ But even if we look at the worst-case scenario, that the selection of hair colour, eye colour and intelligence were lawfully available to couples through the use of PGD, it would not necessarily be a terrible thing. As Dahl puts it, 'I cannot see that this would herald the end of civilisation as we know it'.⁴⁵⁶

In light of these arguments, objections to sex-selection for non-medical reasons that are based on misallocation of resources and the slippery slope argument lack a firm foundation. I will not, therefore, consider them further.

⁴⁵³ Marcus Pembrey, 'Social Sex Selection by Pre-Implantation Genetic Diagnosis' (2002) 4 *Reproductive BioMedicine Online* 157, 158 <<http://www.ncbi.nlm.nih.gov/pubmed/12470579>> accessed on 26 August 2013.

⁴⁵⁴ McMohan (n 234) 272-273.

⁴⁵⁵ Dahl, 'The 10 Most Common Objections' (n 107) 160.

⁴⁵⁶ *ibid.*

(iii) Religious Objections

The religious objections recited arguments: that the sex of a child is a matter for God; that sex-selection interferes with divine will; and that it is contrary to God's creation. Religious concerns were raised at almost every stage of the debate. They centred round the belief that selecting an embryo on the basis of its sex was wrong as this type of option was outside the realms of human choice. Therefore, in religious terms, human intervention in this area was a negative and 'unnatural' interference.

The validity of these arguments can be doubted for two principal reasons. Firstly, the vast majority of medical procedures cause the human body to depart from its original form in some way or another. For example, a person undergoing chemotherapy to rid his body of cancer is departing from his natural state of 'creation'. Similarly, a person taking a Paracetamol tablet in order to ease the pain of a headache is departing from his natural state. Therefore, a great deal of the field of medicine is contrary to God's creation.⁴⁵⁷ It would be hypocritical and unfair to prohibit sex-selection for non-medical reasons on this basis.⁴⁵⁸

Secondly, objections relating to God lead us to ask the question, whose 'God'? Unless we carry out a comprehensive examination of all of the systems of religious belief operating within the UK we cannot say, categorically, that every religion, that every perception of God, concludes that sex-selection is an affront to divine will or creation, or that the sex of a child is a matter for God. There are numerous belief systems within the UK. Many of which would, no doubt, be found to conflict with each other on this issue. Even within the same religion, there is much conflict between different denominations as to the interpretation of religious

⁴⁵⁷ Dahl discusses this issue: 'What was once seen as 'playing God' is now seen as acceptable medical practice.' *ibid* 159.

⁴⁵⁸ There is an argument that these medical practices are not contrary to God's creation as God created us with the ability to engineer such medical practices and they are not, therefore, objectionable to God. However, this argument could also apply to sex-selection, as God created us with the ability to perform such practices.

scriptures and the position that the religion takes on any given issue. There may be belief systems in which sex-selection is seen as furthering divine will and creation. In addition to this, a sizeable proportion of UK citizens consider themselves to be atheists and religious arguments would, presumably, have little bearing on their decision making. We live in a largely secular society in the UK. No one religion or set of religious beliefs can legitimately be imposed upon an unwilling candidate. If respondents to consultations find sex-selection to be against their belief system then they are entitled to place as much weight upon it within their own lives as they see fit. However, they cannot legitimately use these beliefs as a basis upon which to intrude and forcibly intervene in the lives of others.⁴⁵⁹ For those reasons, religious objections will not be considered further.

(c) Reasons

Chapter 2 has demonstrated that the debates divided the issue of sex-selection according to the reasons for its intended use, with non-medical reasons ultimately being deemed illegitimate. Division of the issue in this manner appears to have been an almost sub-conscious process amongst those participating in the debates. At no point was this division questioned. Throughout the debates, many different definitions and interpretations of non-medical reasons have been adopted: they have been viewed as being synonymous with social reasons; they have been divided into family balancing reasons and personal reasons, (the meaning of the latter being contentious); and they have been further sub-divided to include family rebuilding. Therefore, the meaning of non-medical reasons leading up to the 2008 Act has been neither consistent nor static. This has served to cloud the key issues. Many questions

⁴⁵⁹ 'People who consider the option of sex selection as contrary to their religious beliefs are free to refrain from it, but they are not permitted to use the coercive powers of the law to impose their theology upon others.' Dahl, 'The 10 Most Common Objections' (n 107) 159.

arise as a result of this. Do the alleged potential harms apply equally to all categories of non-medical reasons, including family rebuilding, family balancing, religious reasons and cultural reasons? Did public opinion allow for any exceptions to its conservative approach? For example, where a woman, who has been attacked and raped several years earlier, desperately wants to have a child but knows that she would be unable to give birth to, and raise, a male child, would the public condemn her to suffer a childless existence in the event that she could not overcome the psychological devastation of the crimes committed against her? These questions were not answered. The reason is that neither the harms debate, nor the public opinion research, delved deep enough into sex-selection to appreciate and address the finer complexities of the issue. The complexities remain masked by 'reasons' divided into two arbitrary parts: the 'medical' and the 'non-medical'. This is highly unsatisfactory.

Why, then, was the issue divided according to reasons? The answer appears to be convenience. The issue has always been debated according (loosely) to the medical/non-medical distinction. So rather than question the appropriateness of this distinction, it was adopted, developed in an inconsistent fashion, and applied in an arbitrary manner. Having said that, there is clearly a need to divide what is permissible from what is not. Where and how this line can be drawn is not necessarily the exclusive domain of reasons. There are alternatives to this approach.

One way of determining an appropriate manner of division would be to focus on the most significant element of the debates, which was undoubtedly, the opposition faced by sex-selection. The most significant part of this opposition related to potential harms. It was, primarily, potential harm that the prohibition sought to prevent. Therefore, a division of permissibility on the basis of the potential harms of sex-selection, (as opposed to the reasons

behind it), could have been an appropriate manner of division. If this approach were adopted, the potential benefits of sex-selection would also need to be taken into consideration. This is for two reasons. Firstly, the benefits of any procedure form a significant part of whether it should be permitted, because the greater the benefits of a procedure the more valuable and important it is to those benefitting from it. The HFEA itself recognised this in relation to sex-selection when it stated that those seeking the procedure should show demonstrable benefits of it. This leads to the second point, which is that a proper analysis of harms cannot be conducted in isolation from benefits. The two elements should be balanced against one another in reaching a decision as to whether the procedure should be permitted. This is because the greater the potential harm of any given action, the greater the potential benefit should be in justifying it, and vice-versa.⁴⁶⁰ Whilst the presumed benefits of sex-selection for medical reasons were set out and generally accepted to be meritorious during the debates, the potential benefits of selection for non-medical reasons were not adequately explored.⁴⁶¹

Some may argue that reasons are relevant to potential harm, for example, where the reasons could be deemed to be sexist.⁴⁶² That is a fair observation. It is not being argued that reasons should be deemed irrelevant, but merely that they should not be the decisive factor around which the entire subject of sex-selection is constructed and divided. Reasons could well be indicative of potential harm to resulting (or existing) children. They could legitimately be taken into account in determining the potential for harm in any given proposed sex-selection procedure. As such they would be a consideration, and not the decisive factor.

The suitability of this approach is demonstrated in two ways. Firstly, it is demonstrated by the

⁴⁶⁰ ‘the more *valuable* (useful) the dangerous conduct, both to the actor and to others, the more reasonable it is to take the risk of harmful consequences...’ Feinberg, *The Moral Limits of the Criminal Law* (n 22) 216.

⁴⁶¹ The latter will be explored below.

⁴⁶² Potentially sexist reasons for sex-selection will be considered in more detail in chapter 7.

fact that the alleged harms of selection for non-medical reasons are just as applicable to selection for medical reasons. Therefore, given that selection for non-medical reasons was prohibited, principally, on the basis of alleged harms, selection for medical reasons, on this reasoning, should also have been banned. We can imagine a scenario in which Mr and Mrs *B* have an existing child, *C*. *C* suffers from a debilitating sex-linked genetic condition, from which he can never recover. His condition means that he is dependent upon his parents for his day-to-day care. Mr and Mrs *B* find caring for *C* to be very demanding and stressful. They wish to have another child. They want to avoid this child having the same condition as *C* at all costs. They are so afraid of their new child having the same condition that they undergo IVF and PGD in order to choose a female embryo. A female embryo, embryo *D*, is implanted and is later born as child *D*. *D* is born healthy.

Harm could occur here in exactly the same ways as it is alleged in relation to sex-selection for non-medical reasons. Firstly, *C* may be caused harm by the parents neglecting him in the same way as has been alleged in the context of selection for non-medical reasons. In fact, it is arguable that such neglect is more likely to occur in the case of Mr and Mrs *B* than in the typical non-medical selection case, as the parents are forced to shoulder the additional stresses of having a child, (*C*), who does not merely possess the undesired characteristic that they have chosen to select against, but also constitutes a heavy physical burden upon them due to this characteristic. It is just as arguable as in the scenario of non-medical selection that the Mr and Mrs *B* will neglect *C*.

Secondly, *D* could be harmed by the knowledge that she was chosen on the basis of her sex to ensure that she would not possess the same condition as her brother *C*. She may feel that this demonstrates a lack of acceptance on the part of her parents of *C*'s genetic condition, as they

were not prepared to have a child that possessed it. The impact of this would be exacerbated by the fact that her brother *C*, whom she loves very much, possesses this very condition. Therefore, *D* may translate this into a lack of acceptance by her parents of her brother's condition, or even a lack of acceptance of her brother. It would certainly indicate a lack of acceptance by her parents of any other child of theirs who could potentially have this condition. This knowledge could cause *D* psychological damage to such an extent that it harms her in the same manner as has been alleged in relation to non-medical selection.⁴⁶³

This demonstrates that dividing permissibility on the basis of medical and non-medical reasons lacks legitimacy, as the prohibition was based primarily on an allegation that could have been levelled at both categories of reasons for selection, but was only used to prohibit selection for non-medical reasons. The distinction is not only, therefore, unnecessary but has actually masked the extent to which the harms objection was applicable to sex-selection in general. This is neither desirable, nor a secure basis upon which to make the crucial decision of what should and should not be allowed.

It is accepted that these examples of potential harm are tenuous. But they are no more tenuous when applied to sex-selection for medical reasons than they were when they were applied to sex-selection for non-medical reasons. The aim is not to convince the reader of the validity of the examples, but to demonstrate that it is the alleged potential harm that sex-selection could give rise to that was, and is, the pivotal element. Whatever the reason behind the selection,

⁴⁶³ Beyleveld and Brownsword discuss a similar example in the context of human dignity, 'Imagine... a child with [a genetic condition] who knows that its parents would have selected against these characteristics if they had been able to do so. Imagine, further, that it is now possible *and accepted as legitimate* for the parents to select against these characteristics. And suppose, as well, that the parents have now had another child whom they have ensured will not have [the characteristic]. Might this not be deeply damaging to the self-esteem of the child with X characteristics, in a way that will violate its rights?', (although they do stress the need to support such arguments with empirical research and question whether they do actually show that selection is contrary to human dignity), see Beyleveld, *Human Dignity* (n 312) 150. Therefore, a resulting child could be psychologically affected in the same way where selection is for medical reasons, (which is lawful), as for non-medical reasons.

harm is the decisive factor in deciding upon the permissibility of sex-selection. The potential for harm is dependent on a multitude of factors. Reasons are one of these factors. They may, or may not, be relevant to deciding upon the existence and degree of potential harm. Therefore, the issue of permissibility should not be divided on the basis of reasons.

The second demonstration of the suitability of the proposed approach is that similar benefits can apply, to differing extents, to both selection for medical reasons and selection for non-medical reasons. The key benefit of selection for medical reasons is clearly that it is ‘medically’ beneficial.⁴⁶⁴ This is potentially beneficial for three groups: the family; the embryo and/or resulting child; and society.⁴⁶⁵

The first group to be considered is the family. The family will be made up of parents and, in many cases, other children. There are clear benefits of sex-selection for medical reasons for families. Firstly, caring for a child with a serious medical condition constitutes a very heavy burden upon many parents with such children. Providing the requisite care places significant physical demands upon the parents, especially where the child is to be cared for predominantly at home. In relation to almost all of the conditions for which sex-selection for medical reasons is available, this type of care is likely to be a daily and life-long commitment for the parents.⁴⁶⁶ Further, studies have revealed that in addition to the physical pressures, the

⁴⁶⁴ More specifically, the benefit attached to selection for medical reasons was stated to be the avoidance of a serious gender related disability, illness, or medical condition.

⁴⁶⁵ Kuhse and Singer consider the interests of the family and of society in determining whether infanticide should be permitted where babies are born with serious debilitating conditions, in Helga Kuhse and Peter Singer, *Should the Baby Live? The Problem of Handicapped Infants* (Oxford University Press 1985) 146-171.

⁴⁶⁶ In addition to physical demands, studies have clearly shown that there are further burdens that caring for such children places upon families. Families with disabled children are more than twice as likely as families without a disabled child to be unable to afford five or more everyday items, see Eric Emerson and Chris Hatton, *The Socio-Economic Circumstances of Families Supporting a Child at Risk of Disability in Britain in 2002* (Lancaster University 2005). Harrison and Woolley conducted a survey of over 1,800 families with children suffering from disabilities. Six per cent of these families reported that they were ‘comfortably off’, whereas 93 per cent reported that they had had financial difficulties, see Jill Harrison and Mark Woolley, *Debt and Disability: The Impact of Debt on Families with Disabled Children* (York Contact Family and Family Fund 2004).

parents experience social isolation, a lack of time together and high levels of stress.⁴⁶⁷ Social isolation may arise from the fact that the ability of the parents to pursue a social life is restricted due to the burdens upon them. It may also arise from stigma. In many cases, this leads to their relationship breaking down altogether.⁴⁶⁸ Therefore, there are clear psychological and social benefits for families of disease avoidance through sex-selection.⁴⁶⁹

Secondly, the impact upon existing children of having a sibling with a serious medical condition can be detrimental. They may be required to share the burden of caring for their sibling's physical needs. This will have an obvious impact upon their ability to pursue their own interests and childhood pursuits. They will also have to deal with the fact their parents are devoting so much of their time to the ill child.⁴⁷⁰ A study by Kew found that these siblings are often held back in their own development.⁴⁷¹

These benefits are not, however, exclusive to sex-selection for medical reasons in several respects. The Masterton case provides an example of how sex-selection for non-medical reasons could give rise to psychological benefits for parents. Mrs Masterton had suffered from clinical depression since the death of her daughter. Both her GP and psychologist were in agreement that attempts to produce another daughter using PGD would help to ease her condition. The same could be said of many instances of sex-selection for the avoidance of disease. The families may have suffered similar psychological conditions due to the

⁴⁶⁷ One Plus One, 'Growing Together, or Drifting Apart' (2008) One Plus One Ten Alps Publishing <http://www.oneplusone.org.uk/content_topic/having-problems/bringing-up-a-child-with-a-disability/> accessed on 5 February 2012.

⁴⁶⁸ *ibid.*

⁴⁶⁹ Some parents may enjoy caring for children who suffer from such conditions in that they may find it rewarding and fulfilling. However, for those parents who would find parenting such a child an unbearable burden, the option of sex-selection for medical reasons is open for them to pursue.

⁴⁷⁰ Kuhse, *Should the Baby Live?* (n 465) 150.

⁴⁷¹ The study presented some of the problems that such siblings may face, for example: that they may be required to act in a manner that is inappropriate for their age or abilities; that they may miss out on important parts of their childhood; and that they are not provided with the stimulation to develop and progress that a sibling without such difficulties could have provided. See Stephen Kew, *Handicap and Family Crisis* (Pitman 1975).

prevalence of certain diseases within the family and the avoidance of such a disease amongst their own children could help to ease their psychological suffering.

Further, families may experience stigma in relation to not having a child of the desired sex. This stigma could lead to social isolation and ridicule within certain communities. This is especially so in the context of the Punjabi culture. To permit sex-selection for non-medical reasons would provide a huge benefit to these families.⁴⁷²

The fact is that benefits to individual families are very often difficult to objectively measure. Every family evolves in a different way. Families are shaped and developed according to their own individual histories and social, cultural and religious surroundings. The benefits of sex-selection will be dependent upon the context and constitution of each individual family. It would be impossible to use a standardised scale of 1 to 10 and place upon that scale the benefit of removing the burden of having to care for a severely disabled child at, say, 8, then apply that to every family within the UK. Certain families may place the benefit at 10, others may place it at a mere 4. The same is true of the benefits of producing a male child. The Mastertons may have placed the benefit of producing such a child at 0. Whereas, a very traditional Sikh couple, both aged 42, with 4 daughters, may place it at 10. The benefit of avoiding stigma would operate in exactly the same manner. The point is that what constitutes a benefit for any given family, and the extent to which it is beneficial, is a subjective calculation. It would be very difficult, even arbitrary to attempt to impose value-laden judgments upon families by allowing such issues to be determined by anyone other than each individual potential parent. After all, the parent(s) will have to live with the consequences of

⁴⁷² The legitimacy of this benefit is questionable. It is arguable that the problem lies, not with the production of a female child, but with the attitude of the Punjabi culture. This leads to the argument that the Punjabi culture should change, rather than the law. This will be considered further in chapters 6 and 7.

the decision, as they will have to take care of the resulting child on a daily basis.⁴⁷³ Therefore, the benefits that families inform clinics will flow from the procedure for them should form part of the division of sex-selection into what is, and is not, permissible.

The second group that could potentially benefit from sex-selection for medical reasons is the embryo and/or resulting child. The two key questions are whether there are benefits for the embryo and/or resulting child of sex-selection and, if so, whether the benefits of selecting an embryo on the basis of its sex in order to avoid disease actually differ from those flowing from selecting an embryo on the basis of its sex for any other reason. An embryo selected on the basis of its sex in order to avoid a sex-linked disease is selected as it does not have the genetic characteristics, (a particular sex), to have that disease. For example, if all female embryos are at risk of possessing a gene making them more pre-disposed to developing breast cancer, then only male embryos will be selected. None of the genetic makeup of the selected embryo, or embryos, is altered. Therefore, the benefit of disease avoidance is not bestowed upon the selected embryo or resulting child as nothing has been done to rid it of a disease, as it would never have suffered from that disease by virtue of its gender anyway. Were it not selected, it would simply not have been born.⁴⁷⁴ Therefore, the benefit of the selection is the chance of existence. This benefit is exactly the same benefit bestowed upon embryos selected on the basis of their sex for non-medical reasons.⁴⁷⁵ The benefit to selected embryos or resulting children of selection for disease avoidance should not, therefore, be taken into account in determining the permissibility of sex-selection, as it attaches to all types of sex-selection through PGD.

The final group I will look at is society. It is arguable that there are general benefits attached

⁴⁷³ Kuhse, *Should the Baby Live?* (n 465) 186.

⁴⁷⁴ Harris, 'No Sex Selection Please' (n 227) 287.

⁴⁷⁵ Harris, 'Sex Selection and Regulated Hatred' (n 49) 292.

to the protection of reproductive liberty as a whole. The right to choose how and when to reproduce, (and some would extend this liberty to the right to choose which embryo is chosen for implantation), is central to the autonomy and liberty of each individual. On this basis, one of the benefits of permitting sex-selection could be seen as protecting society from the gradual erosion of its rights.⁴⁷⁶ This applies equally to selection for medical and non-medical reasons.

If the issue were divided according to harms, sex-selection for non-medical reasons would not be prohibited *per se* on the basis of the title attributed to it. It would be prohibited if it manifested the concerns that have been used to justify its prohibition. Where sex-selection, for whatever reason, demonstrated potential harms, substantiated with evidence, it would be prohibited. In addition to this, the potential benefits of sex-selection would be balanced against the alleged harms. Therefore, regulation would succeed in preventing the very element that the prohibition seeks to prevent: harm. It would also ensure that, where social benefits of the procedure are present, this is taken into consideration. The technicalities of this proposition are beyond the scope of this chapter. But the alternative approach suggested seeks to remind the reader that there are others ways in which those debating sex-selection could have approached the issue. These alternative routes could well have led to a very different conclusion.

⁴⁷⁶ Whether these benefits are wholly accepted as benefits or not is irrelevant. The point is that they can be applied to sex-selection for non-medical, as well as medical, reasons. Clearly what constitutes a benefit in relation to sex-selection, for any reason, would differ on a case-by-case basis. It is conceded that the benefits would be likely to be most compelling where selection is sought in order to avoid serious medical conditions. However, this does not detract from the argument that the legitimacy of sex-selection in any given case should be determined according to the harms and benefits flowing from it and should not be ruled out solely on the basis of the reasons for its use.

(d) Conclusions

An exploration of the history to the Human Fertilisation and Embryology Act 2008 has revealed that the debates which led to its creation were heavily reliant upon the ethical principles of harm and precaution. Whilst those debating the issue of sex-selection were correct to rely upon those principles, the manner in which they were interpreted and applied was inconsistent and, often, brought the two principles into direct conflict with one another. Rather than resolving these conflicts, they were disguised behind a thick layer of peripheral issues such as the opinions elicited from a tiny fraction of the often ill-informed public. Attention was drawn away from the inconsistent and unstable basis of the prohibition of sex-selection for 'non-medical reasons' by the subconscious structuring of the entire debate around reasons. The adequacy of this structure was never questioned. Therefore, the potential directions in which the debates could have progressed were limited from the outset. Out-dated and groundless objections to the procedure were rehearsed and arbitrary divisions of the issue were left unchallenged. The combination of these elements meant that the debates were rather superficial given the subject matter. This lack of depth has led, in part, to the disintegration of the foundations upon which the prohibition of sex-selection for non-medical reasons is built. This disintegration will lead to instability, and instability will give rise to future legal challenges.

CHAPTER 5

SEX-SELECTION AND SAVIOUR SIBLINGS

Chapter 4 has argued that the principles of harm and precaution were the correct principles to have applied to the issue of sex-selection, but that in the absence of evidence substantiating the alleged harms, precaution demands oversight and regulation as opposed to prohibition. Chapter 5 will demonstrate that the principles were applied in this manner to ‘saviour siblings’⁴⁷⁷ without adverse consequences. They could and should therefore also have been applied to sex-selection in this manner.

The law relating to saviour siblings provides a good comparison to the law on sex-selection as the alleged harms relating to both scenarios are generally the same as is the evidential uncertainty surrounding those harms. Both are enshrined within the HFE Act 2008, with the former being permitted and the latter prohibited. The consultations and reviews relating to each procedure happened at around the same time and were debated primarily by the same authority, the HFEA. These reviews appeared to set out the HFEA’s reasoning behind its policies, which permitted saviour sibling creation in certain instances, yet prohibited sex-selection for non-medical reasons. It will be argued that the legal distinction between the two, (namely that the former is permitted yet the latter is prohibited), is not sustainable as the reasoning upon which that distinction is based, (as contained within the HFEA’s reviews), is unsound. The ways in which the HFEA applied the principles of harm and precaution to

⁴⁷⁷ The media and academics have often referred to children born through PGD, having been selected as a tissue match for the purposes of treating a sick sibling, as ‘saviour siblings’. However, these children have also attracted other labels such as ‘spare-part babies’, see — — ‘Concern Over ‘Spare Part’ Babies’ *BBC News* (31 January 2006) <<http://news.bbc.co.uk/1/hi/health/4663396.stm>> accessed on 25 August 2013; Ruth Dudley Edwards, ‘The Dangers of ‘Spare Part’ Babies’, *Daily Mail Online*, (1 August 2007) <www.dailymail.co.uk/news/article-472327/The-dangers-spare-babies.html> accessed on 25 August 2013>, or even ‘designer babies’, see — — ‘Saviour Siblings - the Controversy and the Technique’ (6 May 2011) *The Telegraph* <www.telegraph.co.uk/health/healthnews/5999457/Saviour-siblings-the-controversy-and-the-technique.html> accessed on 26 August 2013. I will adopt the term saviour sibling, for the sake of convenience, and in order to avoid the inflammatory effects of using the other labels.

saviour siblings, and the methods used for eliciting public opinion, appear to have been correct.⁴⁷⁸ However, the HFEA failed to set out a legitimate justification for not having applied the same approach to sex-selection for non-medical reasons in its 2004 paper. The same approach could and should have been applied and this would have resulted in the 2004 paper concluding that sex-selection for non-medical reasons should be permitted. This chapter will also consider potential wider explanations for the distinction between the treatment of the two procedures.

(a) The Law

As with sex-selection, the debate on the permissibility of saviour siblings raged on long before the enactment of the HFE Act 2008. Saviour siblings attracted a lot of media attention. At the centre of this attention was the Hashmi family.

(i) The Hashmis

Zain Hashmi, the six year old⁴⁷⁹ son of Raj and Shahana Hashmi, suffered from a serious genetic disorder, beta thalassaemia major (BT). The disorder meant that Zain's bone marrow failed to produce sufficient red blood cells,⁴⁸⁰ necessitating regular blood transfusions and medication. His only chance of recovery was a bone marrow transplant. The chances of finding a tissue match, outside of his siblings, were extremely low. None of his three existing

⁴⁷⁸ It is correct in that it accords with the arguments set out in chapters 3 and 4, that where alleged harms cannot be substantiated with evidence, the principle of precaution requires regulation as opposed to blanket prohibition and the burden of proof should rest with those seeking prohibition.

⁴⁷⁹ Zain was six years of age at the time at which the House of Lords delivered its judgment in the case, *R (on the application of Quintavalle) v Human Fertilisation and Embryology Authority* [2005] UKHL 28 (HL).

⁴⁸⁰ *ibid* para 2.

siblings were a match.⁴⁸¹ Mrs Hashmi had conceived on two occasions in an attempt to provide a child who was a tissue match in order to aid Zain. On the first occasion the foetus demonstrated signs of BT and was aborted. On the second occasion, whilst the child was born healthy, it was not a tissue match.⁴⁸²

The Hashmis' options were running out. They turned to reproductive technology. The Hashmis required the use of: (1) PGD to determine whether any embryos created had BT, (as any child that they produced had a one in four chance of developing BT), and (2) HLA typing, (examination of the human leukocyte antigens), in order to determine whether any of the embryos were a compatible tissue match.⁴⁸³

The Hashmis applied to the HFEA for a licence. The HFEA Ethics Committee had considered the issue in November 2000 and January 2001. In January 2001 the Ethics Committee suspended its consideration of the issue in anticipation of the release of the HFEA/HGC's recommendations on PGD following their 1999 consultation.⁴⁸⁴ The HFEA/HGC's report included the recommendation that PGD should only be available where there is a significant risk of a serious genetic condition being present in the embryo.⁴⁸⁵

The Ethics Committee further considered the issue in October and November 2001,⁴⁸⁶ which culminated in the Ethics Committee's Opinion dated 22nd November 2001.⁴⁸⁷ On the basis of

⁴⁸¹ *ibid* para 3.

⁴⁸² *ibid*.

⁴⁸³ *ibid* para 5.

⁴⁸⁴ *Outcome of the Public Consultation on Preimplantation Genetic Diagnosis* (n 76), discussed in detail in chapter 2.

⁴⁸⁵ *ibid* 6, para 28.

⁴⁸⁶ HFEA Ethics and Law Committee, *PGD/HLA Typing Policy Research* (13 April 2004), para 2 <www.hfea.gov.uk/docs/ELC_5_april04.pdf> accessed on 27 August 2013.

⁴⁸⁷ Opinion of the Ethics Committee of the Human Fertilisation and Embryology Authority, *Ethical Issues in the Creation and Selection of Preimplantation Embryos to Produce Tissue Donors* (22 November 2001) <www.hfea.gov.uk/docs/ELC_5_july03.pdf> accessed on 27 August 2013.

this Opinion, the HFEA's policy on HLA was developed and agreed at the HFEA's 113th meeting on 29th November 2001. The HFEA agreed that it would offer PGD and HLA subject to the following conditions:

- (a) the condition of the affected child should be severe or life threatening, of a sufficient seriousness to justify the use of PGD;
- (b) the embryos conceived in the course of this treatment should themselves be at risk from the condition by which the existing child is affected;
- (c) all other possibilities of treatment and sources of tissue for the affected child should have been explored;
- (d) the techniques should not be available where the intended recipient is a parent;
- (e) the intention should be to take only cord blood for purposes of the treatment, and not other tissues or organs;
- (f) appropriate implications counselling should be a requirement for couples undergoing this type of treatment;
- (g) families should be encouraged to participate in follow-up studies and, as with PGD, clinics should provide detailed information about treatment cycles and their outcomes; and
- (h) embryos should not be genetically modified to provide a tissue match.⁴⁸⁸

In February 2002, the Hashmi's request for treatment was granted.⁴⁸⁹ The HFEA, in a press release on 13 December 2001,⁴⁹⁰ announced that it would grant licences in such situations on

⁴⁸⁸ — 'HFEA Confirms that HLA Tissue Typing May Only Take Place when PGD is Required to Avoid a Serious Genetic Disorder' (*HFEA* 1 August 2002) <www.hfea.gov.uk/935.html> accessed on 26 August 2013.

⁴⁸⁹ HFEA Ethics and Law Committee, *CORE v HFEA* – Implications for PGD Licensing (July 2003), para 5 <www.hfea.gov.uk/docs/ELC_4_july03.pdf> accessed on 27 August 2013.

⁴⁹⁰ — 'HFEA to Allow Tissue Typing in Conjunction with Preimplantation Genetic Diagnosis' (*HFEA* 13 December 2001) <www.hfea.gov.uk/961.html> accessed on 26 August 2013.

a case by case basis, subject to the conditions set out above.⁴⁹¹

In May 2002, the director and founder of the interest group Comment on Reproductive Ethics (CORE), Ms Quintavalle, applied for judicial review of this decision on the basis that the HFEA's decision was *ultra vires* the 1990 Act. Permission to apply was initially refused. Ms Quintavalle renewed her application and, in July 2002, permission was granted. Kay J granted the declaration sought by Ms Quintavalle and the HFEA's decision was quashed.⁴⁹²

The HFEA, together with the Department of Health, appealed the High Court decision to the Court of Appeal.⁴⁹³ In May 2003, the appeal was allowed and Ms Quintavalle's application

⁴⁹¹ *R (on the application of Quintavalle) v Human Fertilisation and Embryology Authority* [2003] EWCA Civ 667 (CA), para 6.

⁴⁹² *CORE v HFEA* (n 489) para 6. At around the same time, in August of 2002, the Whitaker family approached the HFEA for the purposes of creating a saviour sibling. Michelle and Jayson Whitaker were the parents of four year old Charlie, (He was four at the time of the 'saviour sibling', Jamie's, birth). Charlie suffered from Diamond-Blackfan Anaemia (DBA), an extremely rare, but not genetic, blood condition that is caused by deficiencies in the bone marrow that result in an inability to produce red blood cells, see — — (*The Diamond Blackfan Anaemia Charity*) <www.diamondblackfan.org.uk/> accessed on 26 August 2013. Because of his condition, Charlie required regular medication and blood transfusions. There is no cure for the condition. However, a donation from a compatible donor could help. A sibling with matching tissue would have granted Charlie a 90 per cent chance of recovery, see Sally Sheldon and Stephen Wilkinson, 'Reproductive Technologies' (*Pro+Choice Forum*) <www.prochoiceforum.org.uk/irl_rep_tech_2.php> accessed on 26 August 2013. The Whitakers applied to the HFEA to use PGD and HLA in order to produce a child with tissue compatible with Charlie's, who could act as a saviour sibling. The HFEA refused permission because the Whitakers wished to use HLA 'solely to select an embryo so that stem cells from the resulting baby's blood could be used to treat an existing sibling affected by Diamond-Blackfan Anaemia (DBA)'. Because DBA is not, usually, a hereditary condition the risks of an embryo developing the disorder in the present case were considered to be 'relatively low', see 'HFEA Confirms that HLA Tissue Typing May Only Take Place when PGD is Required' (n 488). Whilst, the HFEA did recognise that DBA can be an inherited condition, it was not in the present case as neither parent demonstrated that they were carriers. Therefore, the HFEA concluded that the chances of the couple producing another child with the condition were, in fact, no higher than those in the general public. Due to this, the parents were unable to demonstrate that PGD was necessary to select embryos free from the condition. In other words, the procedure was not being used, even in part, to avoid a serious defect in the selected embryo, as it was in the Hashmi case. This ran contrary to one of the criteria laid down in November 2001 that 'the embryos conceived in the course of this treatment should themselves be at risk from the condition by which the existing child is affected', see 'HFEA Confirms that HLA Tissue Typing May Only Take Place when PGD is Required' (n 488). Having been refused permission in the UK, the Whitakers eventually travelled to the Chicago Reproductive Genetics Institute to undergo the treatment, (Roger Dobson, "'Saviour sibling" is born after embryo selection in the United States', (2003) *British Medical Journal* 326 (7404): 1416). The procedure was successful and in June 2003 Mrs Whitaker gave birth to James, whose umbilical cord stem cells were used, successfully, to treat Charlie, see Jess Buxton, 'Permission for Another UK 'Saviour Sibling' Granted' (5 May 2006) *Bionews* 357 <www.bionews.org.uk/page_12710.asp> accessed on 26 August 2013.

⁴⁹³ *CORE v HFEA* (n 489) para 7.

dismissed.⁴⁹⁴ In light of the Court of Appeal's decision, the Ethics and Law Committee⁴⁹⁵ decided to review the HFEA's 2001 policy on HLA, (set out above), in both July⁴⁹⁶ and December 2003. In December it was recommended that the Committee's Opinion dated 22nd November 2001 be resubmitted to the HFEA with a recommendation that the HFEA review its policy on PGD/HLA.⁴⁹⁷

In April 2004 the Ethics and Law Committee put forward proposals for research to be carried out as part of a review of the HFEA's 2001 policy on HLA.⁴⁹⁸ The research was to include: public opinion research; evidence from psychologists and paediatricians on children and families going through sibling bone marrow donation; evidence as to the safety of embryo biopsy and implications for any resulting child; and the law and regulation in other jurisdictions.⁴⁹⁹ In June 2004, the Committee published a paper presenting the findings of the research that had been completed.⁵⁰⁰ It addressed, amongst other areas: public opinion; psychological implications for children and families; and risks to the safety of the resulting child. The manner in which these issues were dealt with will be explored further below and contrasted with the approach adopted in relation to sex-selection.⁵⁰¹

⁴⁹⁴ *Quintavalle (CA)* (n 491).

⁴⁹⁵ The Ethics and Law Committee was established in 2003, in place of the earlier Ethics Committee which had been created in 1999, see — — 'F-2010-00237 - Minutes of HFEA Ethics and Law Committee Meetings' (HFEA 19 November 2010) <www.hfea.gov.uk/6293.html> accessed on 26 August 2013.

⁴⁹⁶ *CORE v HFEA* (n 489).

⁴⁹⁷ This arose out of differences that the Committee had noted between the November Opinion and the HFEA's policy on PGD/HLA. The differences were that, contrary to the HFEA's position, the Ethics Committee was content firstly, for HLA typing to be used even where the selected embryo was at no risk of inheriting the condition from which the existing child was suffering and, secondly, for embryos to be selected where there was a 'good' chance that bone marrow would be harvested from the resulting child, see HFEA Ethics and Law Committee, 'Conditions under which PGD with Tissue Typing would be Acceptable' (HFEA December 2003), para 2-3 <www.hfea.gov.uk/docs/ELC_13_Dec03.pdf> accessed on 26 August 2013.

⁴⁹⁸ *PGD/HLA Typing Policy Research April* (n 486).

⁴⁹⁹ *ibid* para 12.

⁵⁰⁰ HFEA Ethics and Law Committee, *PGD/HLA Typing Policy Research* (17 June 2004) <www.hfea.gov.uk/docs/ELC_PGD-HLA_June04.pdf> accessed 27 August 2013.

⁵⁰¹ The review resulted in several changes, including: that the procedure could now be used where tissue typing was the 'sole objective'; and that embryos could be selected where bone marrow and other tissues of the resulting child would be used. Ultimately the HFEA concluded that 'preimplantation tissue typing should continue to be available in cases in which there is a need for matched tissue and a likelihood of therapeutic benefit for an affected child', see HFEA, 'Listening and Learning: Reviewing the Case by Case approach to the

An appeal against the Court of Appeal decision was brought before the House of Lords. The appeal was, once again, dismissed. The Hashmis, having won their battle through the courts, went ahead with treatment. By this time Mrs Hashmi was in her forties. After five attempts at producing a saviour sibling, all of which ended in miscarriage, the Hashmis decided to abandon their attempts at producing another child.⁵⁰²

(ii) The Current Law

The present position on the permissibility of saviour siblings is provided in the HFE Act 2008. Schedule 2 paragraph 1ZA provides that:

(1) A licence under paragraph 1 cannot authorise the testing of an embryo, except for one or more of the following purposes—

(d) in a case where a person (“the sibling”) who is the child of the persons whose gametes are used to bring about the creation of the embryo (or of either of those persons) suffers from a serious medical condition which could be treated by umbilical cord blood stem cells, bone marrow or other tissue of any resulting child, establishing whether the tissue of any resulting child would be compatible with that of the sibling...

This is subsequently qualified by subsection (4), which provides that, ‘[i]n sub-paragraph (1)(d) the reference to “other tissue” of the resulting child does not include a reference to any

Licensing of Preimplantation Genetic Diagnosis’ (1 December 2009), 12
<www.hfea.gov.uk/docs/Discussion_document_-_case_by_case_approach_to_PGD.pdf> accessed on 27 August 2013.

⁵⁰² Olga Craig, ‘Why We Gave Birth to a Saviour Sibling’ *The Telegraph* (26 December 2010)
<http://www.telegraph.co.uk/health/children_shealth/8224541/Why-we-gave-birth-to-a-saviour-sibling.html#>
accessed on 25 August 2013.

whole organ of the child’.

However, this merely prevents the *selection* of an embryo for the purposes of providing a *whole* organ to its sibling. It does not prevent the selection of an embryo for the purposes of providing *part* of an organ. Therefore, the embryo could be selected for the purposes of the resulting child having part of its liver removed for the use of its sibling. Nor does it prevent the *subsequent use* of the child born as a result of the selection to provide a whole organ for transplant. Further, there is nothing in the 2008 Act that would prevent repeated tissue donations. This is because, once the selected embryo is born as a child, the provisions of the HFE Act 2008 cease to apply. Instead, the best interests of the donor are used in deciding whether, and which, tissue and/or organs should be donated.⁵⁰³

A key case in this area is *Re Y (adult patient) (transplant: bone marrow)* [1997] 2 WLR 556. In this case, the Defendant was a 25 year old, severely physically and mentally handicapped woman, living in a residential home. She was regularly visited by her mother, whose state of health was unstable, and occasionally by her sisters, one of whom was the 36 year old Claimant in this action. The Claimant suffered from pre-leukaemic bone marrow disorder, myelodysplastic syndrome. A bone marrow transplant would not only help to prevent her condition progressing to acute myeloid leukaemia over the next three months, but it was also her only realistic chance of recovery. None of her other sisters were found to be a suitable match to provide bone marrow. It appeared highly likely that the Defendant would be a suitable match.⁵⁰⁴ The chances of the Claimant surviving a stranger donation were around 30

⁵⁰³ Jackson recognises this and makes the point that the HFEA does not have any control over decisions relating to tissue donations, and the types of donations sanctioned, once the resulting child is born, see Emily Jackson, ‘Statutory Regulation of PGD in the UK: Unintended Consequences and Future Challenges’, in Sheila A M McLean and Sarah Elliston (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013) 86-87.

⁵⁰⁴ *Re Y (adult patient) (transplant: bone marrow)* [1997] 2 WLR 556, 111.

per cent, but those chances would increase to around 40 per cent were the donation provided by the Defendant.⁵⁰⁵ The Defendant was unable to consent to the procedure due to her condition.⁵⁰⁶ She understood her own basic needs but not those of others. She did not understand that her sister was seriously ill. The Claimant, therefore, sought a declaration that it would be lawful to subject the Defendant to blood tests and bone marrow harvesting under general anaesthetic in order to help the Claimant.⁵⁰⁷

The test was stated to be whether the procedure would be in the best interests of the Defendant. Whether the procedure would benefit the Claimant was stated to be irrelevant, unless those benefits would serve the best interests of the Defendant.⁵⁰⁸

The declarations were granted on the ground that this course of action would be in the Defendant's best interests. The Court came to this conclusion on the following basis: firstly, despite the fact that the relationship between the Defendant and the Claimant was not particularly strong, the Defendant did have a noticeably close relationship with her mother.⁵⁰⁹ Her mother's health was fragile and her condition had been exacerbated by the Claimant's ill-health. It was noted that the family was 'closely knit' and for the first 10 years of her life, the Defendant had lived at home and was looked after by her mother, with assistance from her father and sisters.⁵¹⁰ Were the Claimant to die, the mother would be adversely affected. Her ability to visit the Defendant would be stifled by any ill effects on her health and also by the fact that she would be having to care for the Claimant's daughter. It was held that the Defendant would clearly be harmed by this and that the procedures would, therefore, benefit

⁵⁰⁵ *ibid* 115.

⁵⁰⁶ *ibid* 111.

⁵⁰⁷ *ibid*.

⁵⁰⁸ *ibid* 112.

⁵⁰⁹ *ibid*.

⁵¹⁰ *ibid* 115.

her. The benefits would be the prolonging of her relationship with her mother and an improvement in her relationship with the Defendant, who would be ‘eternally grateful’.⁵¹¹ The disadvantages of the procedure were held to be ‘very small’⁵¹² for the Defendant on the grounds that the pain that she would suffer was capable of being controlled through drugs and she had been under general anaesthetic on several previous occasions, with no ill-effects. The net effect of these considerations was that the procedure was held to constitute an ‘emotional, psychological and social benefit’ for the Defendant. It was, therefore, held to be in her best interests.⁵¹³

In the context of saviour siblings, it should be noted that the House of Lords in *Quintavalle* had no doubt that,

medical practitioners take very seriously the law that any operation upon a child for which there is no clinical reason relating to the child itself must be justified as being for other reasons in the child's best interests. If the question appears to be doubtful, a ruling from the court may be obtained. The authority is in my opinion entitled to assume that a child conceived pursuant to its licence will, after birth, receive the full protection of the law.⁵¹⁴

The HFEA’s latest policy on saviour siblings addresses several areas: firstly, the HFEA has provided a non-exhaustive list of conditions for which HLA has been ‘approved’;⁵¹⁵ secondly,

⁵¹¹ *ibid.*

⁵¹² *ibid.*

⁵¹³ *ibid* 116.

⁵¹⁴ *Quintavalle* (HL) (n 479) para 38.

⁵¹⁵ This list can be found at — ‘PGD Conditions Licensed by the HFEA’ (*HFEA* 26 August 2013) <www.hfea.gov.uk/cps/hfea/gen/pgd-screening.htm> accessed on 26 August 2013. It includes the following conditions: alpha thalassaemia/mental retardation syndrome; Aplastic anaemia – severe; Beta Thalassaemia; Diamond Blackfan Anaemia; Fanconis Anaemia A; Fanconis Anaemia C; Hyper IgM Syndrome – Hypogammaglobulinaemia; Leukocyte Adhesion Deficiency (Type I); Recessive Dystrophic Epidermolysis

the HFEA has made it clear that applications for HLA will be considered on a case-by-case basis;⁵¹⁶ thirdly, tissue typing of embryos may now occur where tissue typing is the sole objective, (as well as in combination with genetic testing in order to avoid disease);⁵¹⁷ fourthly, the seriousness of the condition from which the existing child suffers should be serious enough to justify the use of PGD;⁵¹⁸ and finally, the clinical team treating the existing child should have considered the availability of alternative treatments and must fully support the application for tissue typing.⁵¹⁹ In relation to the final two elements of the HFEA's policy, it is clear that the Licence Committee will consider aspects of the existing child's situation. In this regard, the HFEA has set out that the Licence Committee will consider, in particular, the following elements: the condition from which the existing child suffers, including the degree of suffering and the degree of degeneration; the exiting child's prognosis; the availability of alternative sources of tissue for the treatment; and the existence of alternative effective therapy.⁵²⁰

We have seen in chapter 2 that, in contrast to the position on saviour siblings, sex-selection for non-medical reasons is prohibited by Schedule 2 paragraphs 1ZA (1)(c) and 1ZB of the 2008 Act. The HFEA's reasoning behind this distinction will now be examined⁵²¹.

Bullosa; Sickle Cell Anaemia; and Wiscott-Aldrich Syndrome.

⁵¹⁶ — — 'Pre-Implantation Tissue Typing ('Saviour Siblings')' (*HFEA* 7 June 2010)

<www.hfea.gov.uk/preimplantation-tissue-typing.html> accessed on 26 August 2013.

⁵¹⁷ HFEA Ethics and Law Committee, 'Case by Case Decision Making in PGD' (15 December 2009), 12, para 4.2 <www.hfea.gov.uk/docs/2009-12-15_ELAC_-_Case_by_case_decision_making_in_PGD_-_Paper.PDF> accessed on 27 August 2013.

⁵¹⁸ *ibid.*

⁵¹⁹ *ibid.*

⁵²⁰ *ibid* para 4.3.

⁵²¹ The reason for examining the HFEA's basis for the distinction between sex-selection for non-medical reasons and saviour sibling creation is that the difference in their permissibility first arose as part of HFEA policy. Before the permissibility of saviour sibling creation and the prohibition of sex-selection for non-medical reasons was enshrined in statute, it had been set out and governed by the HFEA. As will be discussed below, the fact that the HFEA had already issued licenses for saviour sibling creation would have arguably made it very difficult for MPs not to support its permissibility during the Parliamentary debates on the issue. Conversely, as has been set out in chapter 2, the fact that the HFEA policy, and thereafter the draft Bill, had prohibited sex-selection for non-medical reasons meant that the question of its permissibility was not even a live-issue for Parliament to debate. Therefore, the roots of the legal distinction appear to be based to a significant degree in the HFEA's published

(b) Discussion

The HFEA ELC's 2004 paper,⁵²² which presented the findings of its review of PGD/HLA policy, resulted in changes to the policy which formed the basis of the current legal position, (as discussed above). Two of the key elements which featured in the review had also formed a large part of the review of sex-selection. These elements were: the physical and psychological harm that may result from the procedure, both in terms of the safety of embryo biopsy and any implications for the resulting child, and also in respect of the experiences of children and families in sibling cord and bone marrow donation,⁵²³ (which involved consideration of precaution); and public opinion. This section will examine the manner in which the HFEA applied these elements differently to saviour siblings when compared to sex-selection. Whilst it did attempt to justify why it did this, it will be argued that the justifications for the differences do not stand up to scrutiny and, consequently, the law on sex-selection is difficult to reconcile with saviour sibling permissibility. The reality is that the methods of eliciting public opinion and the principles of harm and precaution as applied to saviour siblings should have been applied in the same manner to sex-selection. Had this have been done, the 2004 report would have had no alternative but to conclude that sex-selection for non-medical reasons should be permitted.

(i) Public Opinion

As discussed in chapter 3, according to the harm principle, public opinion cannot justify the use of coercive measures. Nevertheless, it was employed in relation to both sex-selection for

policies and reviews. It is acknowledged that there are likely to have been wider political reasons for the distinction as well. These will be discussed further below.

⁵²² *PGD/HLA Typing Policy Research June* (n 500).

⁵²³ *ibid* para 2.

non-medical reasons and saviour siblings. It was used to justify the prohibition of the former and it was used to bolster arguments for the legitimacy of the latter.

The HFEA explicitly sought out public opinion on the issue of saviour siblings and stated that its aim was to ‘probe the way in which public opinion on this and related issues is formed and influenced, and to identify significant thresholds in public acceptance of new reproductive technologies’.⁵²⁴ This indicates that the HFEA viewed not only public opinion, but public acceptance, as being of significance to the permissibility of saviour siblings.

Opinion Leader Research, a market research company, was commissioned by the HFEA to carry out research into public opinion. Discussions about the issues were had amongst six groups consisting of between six and eight members of the public. Two of these groups were stated to have a ‘direct interest in either genetic disability or assisted conception’.⁵²⁵ The groups were subsequently reconvened with invited experts in order to discuss their opinions further.⁵²⁶ The participants were able to hear the views of the experts who attended the group sessions.⁵²⁷ These findings were presented in ‘Annex G’ and they were also summarised in the review document.

The review document asserted that:

Participants’ initial feelings were broadly in favour of the use of any technique which could save the life of a child, as long as the risks were well managed. Their primary

⁵²⁴ *ibid* para 27.

⁵²⁵ *ibid* para 26. Half of the group had experience of disability, (including being carers) and half had infertility experience, see Opinion Leader Research, *A Qualitative Study of Public Attitudes to Embryo Selection for Tissue Donation* (Prepared for Human Fertilisation and Embryology Authority June 2004), 4 <www.hfea.gov.uk/docs/ELC_Annex_G_OLR_findings_June04.pdf> accessed on 27 August 2013.

⁵²⁶ *PGD/HLA Typing Policy Research June* (n 500) para 27.

⁵²⁷ *ibid* para 28.

considerations tended to be for the families involved (the affected child, donor, and parents) and their initial cautious approval tended to be confirmed by more sustained consideration of the issues. They were generally reassured by the views of the experts from whom they heard... Many had greater reservations about the use of the procedure to produce a bone marrow donor, but these concerns tended to diminish in the light of more information about the procedure.⁵²⁸

However, this summary of the research masked the issues evident in the findings set out in, the much more detailed, Annex G. Annex G reveals that the opinions expressed were not as simplistic as this. Firstly, the summary above suggests that ‘more information’ about procedures was provided to participants. Annex G confirms this:

Participants across the groups were grateful to gain information from expert speakers

- Several commented that they ‘knew nothing’ at beginning of research and after deliberative process felt more informed and comfortable in taking a position
- Highlighting importance of public information.⁵²⁹

This approach, of providing expert information during the opinion gathering process, was not adopted in relation to sex-selection. Consultees were not provided, during the research process, with the information that they required to come to a conclusion on the issue of sex-selection for non-medical reasons. Certain studies concluded that the participants expressly stated that they were unable to be conclusive due to the issue not having been sufficiently explored at that stage.⁵³⁰ In relation to saviour siblings, the provision of such information is stated to have diminished concerns expressed by participants. It may well have had the same

⁵²⁸ *ibid* paras 28-9.

⁵²⁹ Opinion Leader, *A Qualitative Study of Public Attitudes to Embryo Selection* (n 525) 54.

⁵³⁰ Counter Point, *Sex Selection – Policy and Regulatory Review* (n 113) 34.

effect in relation to sex-selection.

Secondly, whilst the review document states that concerns relating to bone marrow donation diminished in light of more information about the procedure, Annex G reveals a more complex reaction to the question, which was not as positive as the review document seeks to portray. Annex G summarised that, ‘...acceptability depends on... Whether or not the donor child will have to undergo a painful procedure without consent’.⁵³¹

In relation to bone marrow donation specifically, the Annex states that the

Prospect of donor child having to undergo invasive surgery for bone marrow is unacceptable to the majority

– *Emotional:*

- Unfair to subject saviour child to pain without consent
- Distasteful to ‘breed’ a child for internal body parts (vs. external umbilical cord)

– *Rational:*

- Major surgery risking lives of both children.⁵³²

Both of the two principal procedures for harvesting bone marrow involve an invasive medical process.⁵³³ Therefore, the results suggest that the majority of participants were disturbed by the prospect of saviour siblings being created for the purposes of, at the very least, bone marrow donation.

Finally, the manner in which the public opinion on saviour siblings was elicited was,

⁵³¹ Opinion Leader, *A Qualitative Study of Public Attitudes to Embryo Selection* (n 525) 8.

⁵³² *ibid* 39.

⁵³³ The procedures are set out in greater detail below.

arguably, designed to produce more positive results than it had in relation to sex-selection for non-medical reasons. A clear example of this is the use of saviour sibling case studies. One of the case studies used involved the creation of the fictional ‘Taylor’ family to demonstrate the tragic position of a family who desperately need to create a saviour sibling in order to save the life of an existing child. The findings summarised that:

The vast majority of participants said they would grant the Taylors a licence

- Case study may highlight plight of individuals involved... i.e. people are reluctant to apply abstract moral arguments to a ‘real family’
- However, some are unsure and / or attach conditions to licence, and a minority refuse the licence.⁵³⁴

It has been argued in relation to sex-selection that the use of such a technique would have produced a much more favourable response.⁵³⁵ The example of the Mastertons could easily have been used as a case study and may well have invoked more sympathy than requesting responses to short, sharp statements such as, ‘[t]he use of PGD should be permitted for selecting the sex of offspring for non-medical reasons’.⁵³⁶

However, and in any case, as argued in chapter 3, public opinion should not have been used as a reason to either prohibit or permit either procedure. The harm principle was relied upon as a central feature of the prohibition of sex-selection for non-medical reasons. The extent to which it was relied upon in relation to saviour siblings will be discussed below. According to this principle, coercive measures cannot be used against an individual on the basis of the

⁵³⁴ Opinion Leader, *A Qualitative Study of Public Attitudes to Embryo Selection* (n 525) 23.

⁵³⁵ Schulman argues for a similar ‘example based’ approach in Schulman, ‘An Attempted Suppression of Liberty’ (n 236) 374. This has been discussed in chapter 3.

⁵³⁶ *Options for Regulation* (n 75) 24.

opinions of others. Whilst people are entitled to their own opinions, they cannot legitimately impose them on others.

(ii) Harm

In relation to the impact of the procedures on children and families, physical harm to the embryo and subsequent physical harm to the resulting child, due to embryo biopsy, was afforded little weight by the HFEA. This was because the evidence indicated that it did not increase the rate of malformation in resulting children.⁵³⁷ This position was in line with that adopted in the context of sex-selection and PGD. I will not, therefore, explore this area further. However, the HFEA went onto recognise that:

Whilst, therefore, it would arguably be inconsistent with existing HFEA policies... to withhold HLA typing on the basis of a risk associated with embryo biopsy, conversely it would be consistent with arguments already made to support the prohibition of sex selection (for non-medical reasons) to withhold the treatment on the basis of the other major consideration that informed the HFEA's 2001 decision, namely psychological harm to the child conceived.⁵³⁸

The psychological harm concern had also been raised by participants during the public opinion research into views on saviour siblings.⁵³⁹ Whilst potential psychological harm had formed the basis of the prohibition of sex-selection for non-medical reasons, the creation of

⁵³⁷ 'The embryo biopsy procedure seems not to increase the malformation rate in PGD children compared to IVF or ICSI children. Gestational age, birth weight are comparable in PGD and ICSI/IVF children', in *PGD/HLA Typing Policy Research June* (n 500) 1; 'whilst there is known to be some risk of damage to the embryo as a result of the biopsy procedure (<5%), such damage usually renders the embryo non-viable. In the majority of cases, where the embryo continues to develop following the biopsy, the development of the embryo and subsequent development of the fetus and child is thought to follow a normal path. Nevertheless, although many more children have now been born following blastomere biopsy than existed in 2001 there are no large-cohort follow-up studies of PGD offspring available at present', (para 5).

⁵³⁸ *ibid* para 8.

⁵³⁹ Opinion Leader, *A Qualitative Study of Public Attitudes to Embryo Selection* (n 525) 33.

saviour siblings is permissible under the 2008 Act. The HFEA attempted to justify this apparent dichotomy in a number of ways. The first tool it employed was the precautionary principle:

There remains, necessarily, very little evidence about psychological outcomes for genetically selected offspring and arguments have been largely speculative. Adopting a precautionary approach may certainly be criticised as incoherent since the ‘precautionary principle’ can be used to support both sides of the argument: if there is a risk of harm to the child conceived we should err on the side of caution; on the other hand if this harm is merely speculative and the consequence of not undertaking the procedure is the death or suffering of the existing child, the cautious option is to carry out the procedure.⁵⁴⁰

The passage is correct to state that the psychological outcomes are speculative. But this does not account for the difference between relying on the psychological harm argument in relation to sex-selection, but not saviour siblings, (because it must be remembered that the psychological outcomes for children born as a result of sex-selection for non-medical reasons were equally as speculative). In the context of sex-selection the HFEA had dealt with the problem of ‘speculative outcomes’ by applying a very stringent interpretation of the precautionary principle, which involved a blanket prohibition of a potentially harmful procedure in the absence of (1) evidence proving that the procedure would not be harmful and (2) evidence of demonstrable benefits of the procedure. However, in relation to saviour siblings, they advocated a very different interpretation of the principle.

Firstly, the passage seeks to circumvent the need to adopt a precautionary approach at all. Had

⁵⁴⁰ *PGD/HLA Typing Policy Research June* (n 500) para 9.

the HFEA applied the same interpretation of precaution as it did in relation to sex-selection, it would have led to the blanket prohibition of saviour siblings. Instead, the HFEA avoided this by labelling the principle as ‘incoherent’ in this context. The principle is stated to be incoherent on the basis that it can be used to support both sides of the argument. In other words, the HFEA is asserting that it can be used to support arguments both for and against saviour sibling creation. This is undoubtedly correct. However, the same could be said of precaution in relation to sex-selection. It could be argued that precaution requires the prohibition of sex-selection for non-medical reasons where there is a risk of psychological harm to the resulting child. Conversely, it could also be argued that precaution requires that where such harm is merely speculative, and the consequence of not carrying out the selection is harm to another family member, then selection should be permitted.

The Mastertons provide a clear example of this situation. Mrs Masterton had been suffering from clinical depression caused by the tragic death of her daughter Nicole. Both Mrs Masterton’s GP and clinical psychologist were satisfied that her condition would be greatly improved by the use of PGD in an attempt to produce another daughter.⁵⁴¹ Precaution could have required that sex-selection be permitted in order to reduce harm suffered by Mrs Masterton. Conversely, precaution could also have required that sex-selection be prohibited in this situation due to the risk of psychological harm to the resulting child. This is not to say that either interpretation of the precautionary principle in relation to sex-selection would have been the correct approach. The example merely illustrates that the HFEA’s stance in relation to saviour siblings, that the employment of a precautionary approach would be incoherent, also applies within the realms of sex-selection. ‘Incoherence’ is not, therefore, a sound justification for the HFEA circumventing the need to employ a precautionary approach in

⁵⁴¹ *Human Reproductive Technologies and the Law 5th Report II* (n 83) Written Evidence, Appendix 49.

relation to saviour siblings, when it applied such a stringent form of precaution to sex-selection's different applications.

Secondly, whilst this passage appears to remain silent on the interpretation of precaution to be adopted in relation to saviour siblings and appears to advocate not employing the principle at all, the HFEA nevertheless proceeded to employ precaution later in the report, but in the latter sense suggested in the passage. This is clear in one of the stated objectives of the HFEA ELC, which was:

... to consider whether there is any evidence of adverse psychological affects which is transferable and relevant to the question of whether (1) PGD/HLA typing or (2) preimplantation HLA typing alone should be permitted.⁵⁴²

This is a complete reversal in approach from that adopted in relation to sex-selection. The HFEA is asking members to consider the existence of evidence of psychological harm in determining whether the procedure should be permitted, rather than the approach adopted in relation to sex-selection, which accepted the absence of such evidence, but relied upon precaution to ban the procedure without further investigation into whether any substantiating evidence actually existed. This passage appears to require the members to establish that such evidence exists, then to determine whether it is transferable and relevant to the permissibility of saviour siblings, before even applying it to support or prohibit the procedure. This approach is akin to that adopted by the House of Commons Science and Technology Committee and appears to have been an appropriate interpretation of precaution in this context. However, as chapter 3 has shown, both the HFEA and, later, the Government,

⁵⁴² *PGD/HLA Typing Policy Research June* (n 500) para 34.

refused to accept the adoption of such an approach to precaution in relation to sex-selection.⁵⁴³

The second tool used in the review is the assertion that ‘the speculative argument about psychological consequences was not decisive but merely supportive of the general conclusion’⁵⁴⁴ to ban sex-selection for non-medical reasons. It has been argued in chapter 3 that psychological harm was one of the pivotal elements upon which the HFEA sought to justify the ban, (alongside public opinion). To claim that the psychological harm argument was not decisive, but merely ‘supportive’ is a grave understatement. The effect of downplaying the weight afforded to potential psychological harm in the prohibition of sex-selection for non-medical reasons is to justify the non-reliance upon it in relation to saviour siblings. Had the HFEA not have made such a statement, the inconsistency in its reasoning in relation to either sex-selection or saviour siblings, or in fact both, would have been apparent.

The third tool used by the HFEA was that it relied upon expert opinion as to the effects of sibling bone marrow and cord blood donation on children and families.⁵⁴⁵ There was no mention in the review document of the effects of partial organ donation or the donation of regenerative tissue, such as liver tissue.⁵⁴⁶ The current law would permit selection for this purpose. The only prohibition is on the intended creation of a saviour sibling in order to donate an entire organ. However, the literature review annexed to the review reveals that the

⁵⁴³ The House of Commons Science and Technology Committee concluded that as precaution has never meant “proceed only where there is evidence of no harm”, the level of precaution required under the precautionary principle within the medical context meant ‘that alleged harms to society or to patients need to be demonstrated before forward progress is unduly impeded’, see *Human Reproductive Technologies and the Law 5th Report I* (n 140) 22, para 47; 175, rec 3. The Government dismissed this with very little by way of justification, see *Human Reproductive Technologies and the Law: Government Response* (n 153) 7, para 7.

⁵⁴⁴ *PGD/HLA Typing Policy Research June* (n 500) para 9.

⁵⁴⁵ *ibid* paras 11-14.

⁵⁴⁶ Whilst Annex E discussed partial organ donation, it does so only in the context of consent to the procedure and the extent to which parental consent would be sufficient and/or Court orders would be required and forthcoming. Nevertheless, there was no discussion of the physical or psychological impact of the donation of partial organs upon the resulting child or parents.

HFEA was aware of available material that clearly discusses the impact of partial organ donations or other regenerative tissue donations. This should have been looked into in greater detail because logic indicates that the risk of psychological harm is greater the more serious, onerous, dangerous, painful and intrusive the procedure is. Nevertheless, the HFEA did not discuss the available research on the psychological, (or physical), impact of partial organ donation within the report.

The final tool was that the HFEA relied upon differences between the purposes for which each of the two procedures would be employed in order to justify its reliance upon the risk of psychological harm in relation to sex-selection, but not saviour siblings. It divided this into four arguments. Firstly, that:

In the case of sex selection the characteristic chosen does not, arguably, serve a purpose that has a positive moral value in itself whereas with HLA typing the characteristic is chosen in order to save the life of a family member.⁵⁴⁷

Having made this assertion, the HFEA failed to explore or justify it. A closer inspection reveals flaws in its reasoning. This statement attempts to compare the moral value of the *characteristic* of a chosen sex with the *purposes* for which the characteristic of a chosen tissue type is selected. This is an unfair way in which to compare the two.

By asserting that the chosen characteristic in the case of sex-selection does not serve a positive moral value in itself is to say that the sex of a resulting child has no positive moral value in itself. That assertion would be difficult to argue against because a person's sex

⁵⁴⁷ PGD/HLA Typing Policy Research June (n 500) para 10.

cannot be said to be either ‘good’ or ‘bad’ in and of itself. The consequences or characteristics attaching to a person’s sex could be positive or negative for that particular person. For example, a consequence of being born female could be the higher risk of the development of breast cancer. This would almost certainly lead to a great deal of physical and psychological suffering. Ultimately, it could lead to premature death. This final consequence of being born female, (as well as the consequences earlier in the chain, such as suffering), can be seen as a negative value of being that particular sex. However, it cannot be said that the female sex itself is the negative attribute in this scenario.

The HFEA then sought to compare this intrinsic moral value approach to saviour sibling creation. In order to make such a comparison, the HFEA should have compared the intrinsic ‘positive moral value’ of the characteristic chosen in sex-selection, (a particular sex), with the intrinsic ‘positive moral value’ of the characteristic chosen during saviour sibling creation, which is a particular tissue type. It is accepted above that sex does not have a positive moral value in itself, although it may produce certain consequences that could be seen to be either positive or negative. However, using the same reasoning, no positive moral value attaches to being a particular tissue type. The only stage at which we can attach positive or negative moral value to being a particular tissue type is further down the consequential chain. So, for example, a resulting child is born with tissue type A, which has been chosen to be consistent with their sick sibling’s tissue type A. The resulting child lives as a ‘normal’ child, without being medically interfered with for the sake of the sibling child, for approximately one year. On attaining the age of one, the resulting child is taken into the operating theatre and has his bone marrow harvested. This bone marrow is used to treat the sick sibling. At some point, a positive moral value begins to attach to the tissue type of the resulting child. It is obvious that, once the sibling is treated by the resulting child’s tissue, a positive moral value has attached to

the fact that the resulting child is tissue type A. However, it would be difficult to argue that this value is attached to tissue type A independent of its use or intended use to aid someone else. Another way of viewing this is to consider two brothers, A and B. By chance, they have the same tissue type. It cannot be said that either of them (or their tissue) possesses greater moral value by virtue of this similarity. B requires a bone marrow donation due to a disease that he has unfortunately developed. It is clearly fortunate that A shares the same tissue type, as he may be able to assist his brother, if he decides to. However, it still cannot be said that any positive moral value attaches to his tissue type by virtue of B needing to use A's tissue through a bone marrow donation. In the same way as discussed above in relation to sex, it is difficult to argue that by being born with tissue type A, you have attached to your tissue type a positive moral value. To argue that point would be to accept that were the resulting child born without tissue type A, perhaps with tissue type B, he would be devoid of the positive moral value that he would have had were he born with tissue type A. The moral value, as argued above, attaches to the *consequences* flowing from the tissue type, or the sex, and not to the attributes themselves.⁵⁴⁸

The HFEA's statement appears to acknowledge this distinction, as it accepts that the positive moral value in tissue typing attaches to the fact that 'the characteristic is chosen in order to save the life of a family member'⁵⁴⁹ and not that the particular tissue type has positive moral

⁵⁴⁸ The United States case of *McFall v Shimp* (1978) 10 Pa. D & C 3d 90 demonstrates this point. The Claimant, Mr McFall, suffered from a rare bone marrow condition and was unlikely to survive without undergoing a bone marrow transplant. The only known compatible donor was his cousin, the Defendant, Mr Shimp, (91). The Defendant refused to submit to the procedure and to provide his bone marrow. The Claimant sought to compel the Defendant to provide his bone marrow. The court commented that 'Morally, this decision rests with defendant, and, in the view of the court, the refusal of defendant is morally indefensible', (92). Nevertheless, and unsurprisingly, the court refused to make the order sought by the Claimant, (93). This demonstrates the argument above that the Defendant's tissue type, in and of itself, was morally neutral. It held no positive moral value. The action of helping the Claimant by using the bone marrow would have held a positive moral value, (as the court noted, his refusal to use the tissue in this manner was 'morally indefensible'). Ultimately, because the Defendant chose to do nothing with his bone marrow, and the court upheld that decision, the Defendant's tissue type was of neutral moral value.

⁵⁴⁹ *PGD/HLA Typing Policy Research June* (n 500) para 10.

value in itself. The problem with the statement is that it omits to apply the same logic to the characteristic chosen in sex-selection. In relation to sex-selection, the statement refers to the ‘characteristic chosen’ not serving a positive moral value ‘in itself’. What the HFEA should have done, in order to compare the two scenarios fairly, was to apply the same logic to sex-selection as it did in relation to saviour siblings. In other words, it should have considered the moral value that attaches to the purposes for which the characteristic is *chosen*, as opposed to the characteristic itself. These purposes could have included the Masterton type tragedy, where the only child of a particular sex in a family has died, leaving devastating consequences for the family involved, or family balancing type situations. There was no attempt to set out the purposes for which sex may be chosen and, consequently, there was no attempt to explore the moral value that may attach to such purposes.

Secondly, and related to the first argument, they asserted that:

... there is a good argument that the parents have a strong claim on the assistance of professionals since their object is a genuine therapeutic one (to save the life of a child who might otherwise die); in the case of sex selection, on the other hand, the responsibility of clinicians to provide treatment is diminished in relation to the strength of the claim on their professional beneficence of those seeking it (simple sex preference).⁵⁵⁰

This argument is misguided in two ways. Firstly, it assumes that those seeking sex-selection lack a genuine therapeutic objective. This may be true in certain cases. However, there will be many cases in which the objective of those seeking the procedure is therapeutic. Mrs Masterton is an example of this. Being allowed to use PGD to try to produce a daughter could

⁵⁵⁰ *ibid.*

greatly have alleviated her depression.⁵⁵¹ There is at least a claim in these sorts of cases that a genuine therapeutic objective exists.

Secondly, it assumes that the only means by which a person can strengthen their claim to professional assistance is to have a ‘genuine therapeutic’ objective. This is incorrect for two reasons. Firstly, it completely overlooks the privately paying patient. The UK already has a two-tier system in relation to healthcare: the NHS and the private sector. The ethos of that system is that those who pay for certain types of treatment generally have a ‘stronger’ claim to assistance than those who will not, or cannot, pay for the same treatment. This can be seen clearly in the context of fertility treatment. The NHS will only provide between one to three cycles of IVF for patients aged, usually, between 29-39. Primary Care Trusts in different areas differ as to how many cycles they offer and to whom. These differences are dictated, largely, by budget restraints and resource allocation. In other words, finances dictate who gets what and the PCTs are forced to decide which patients have a stronger claim to treatment on the NHS. In the private sector, however, patients can have as many treatments as they can afford to pay for.⁵⁵² The fact that they pay for the treatment privately gives them a *prima facie* ‘strong claim’ to professional assistance. The related argument of a ‘genuine therapeutic’ objective giving rise to a ‘strong claim’ to assistance, again, is flawed. Provided that patients are paying privately for treatment, medicine rarely questions how genuinely therapeutic the patient’s objective is. Cosmetic surgery provides an obvious example. It would be difficult to judge whether botox or chin implants have a ‘genuine therapeutic’ objective, or whether they are paid for and carried out simply for the sake of vanity. But in any case, the distinction appears to be irrelevant as long as the patient is paying for the privilege. Secondly, the HFEA is incorrect in implying that a genuine therapeutic reason is the only circumstance in which

⁵⁵¹ *Human Reproductive Technologies and the Law 5th Report II* (n 83) Written Evidence, Appendix 49.

⁵⁵² Subject to the physical health and age of the mother, as is the case with NHS treatment.

doctors can act. The argument misses the crucial fact that doctors often act where there is no therapeutic objective. This is because the lack of a genuine therapeutic objective is not necessarily a limiting factor on medical practice. In other words, there is no need for there to be a genuine therapeutic objective for doctors to perform a procedure on a patient.⁵⁵³ This is illustrated by the first point relating to cosmetic surgery. Therefore, the therapeutic objective test is the wrong standard to apply when considering what doctors should do in any given scenario.

The third argument, which follows on from the second, was that:

In the case of sex selection, then, if there is the possibility of an adverse, or even suboptimal, outcome that compromises the welfare of the child, clinicians cannot attenuate their professional responsibility for this by claiming that they were merely a tool in the service of the parents.⁵⁵⁴

This argument lacks credibility for two main reasons. Firstly, it follows on from the second argument which, as argued above, is flawed. Therefore, this passage seeks to argue that medical professionals are professionally responsible for any adverse, or even suboptimal, outcomes flowing out of medical treatment provided to patients who do not have a genuine

⁵⁵³ There will obviously be extreme circumstances in which doctors may refuse to treat a patient. Jackson uses the example of a patient requesting the amputation of healthy limbs. In such circumstances, the doctor may be of the view that psychotherapy is a better course of treatment, see Jackson, 'Conception and the Irrelevance of the Welfare Principle' (n 282) 183. It would be very difficult to justify placing sex-selection for non-medical reasons in the same category as these sorts of extreme requests for irreversible physical mutilation, which would result in permanent and very serious disabilities. And in any case, it should be borne in mind that certain surgeons have acceded to the request to amputate a healthy limb on the basis that it is more psychologically beneficial for the patient than being forced to live with a limb which they cannot accept as part of themselves, see Robert C Smith, 'Less is More: Bodily Integrity Identity Disorder' in Stephen W Smith and Ronan Deazley (eds), *The Legal, Medical and Cultural Regulation of the Body: Transformation and Transgression* (Ashgate Publishing 2009), 147-157. See in particular 155, which explains that Smith carried out above the knee amputations of healthy limbs on request for two patients in the 1990s.

⁵⁵⁴ *PGD/HLA Typing Policy Research June* (n 500) para 10.

therapeutic objective. Because an examination of the current medical system in the UK reveals that a genuine therapeutic objective is not always, and perhaps not even, the main element in creating a strong claim to professional assistance, the second argument does not create a legitimate foundation for the third.

Secondly, the argument misses the point that almost every medical procedure entails potential side effects. In other words, in any medical procedure there exists ‘the possibility of an adverse, or even suboptimal, outcome’. Therefore, the risk of a sub-optimal outcome is always present. In relation to artificial reproduction generally, there exists the possibility of such an outcome ‘that compromises the welfare of the child’. However, s. 13(5) of the 2008 Act manages this risk before treatment can commence. Therefore, any possibility of adverse or suboptimal outcomes would be addressed at this stage. Further, the alleged outcomes would need to be sufficiently serious under the welfare requirement to meet the significant harm standard, which requires the risk of something much more serious than merely a ‘suboptimal’ or ‘adverse’ consequence for a resulting child.

And finally, the HFEA argued that:

... one might be justified in imputing to a child an interest in being born with characteristics that allows it to save the life of a family member whereas it is much less clear that a child might, *ex hypothesi*, have an interest in being of one sex rather than the other.⁵⁵⁵

This argument misses the point. Every child, other than arguably a severely deformed or

⁵⁵⁵ *ibid* para 10.

diseased child, has an interest in being born.⁵⁵⁶ Whether this child is born to save the life of another child, to save a failing marriage, to provide an accessory for a certain type of lifestyle, or simply as an accident, it has an interest in being born. Both sex-selection and saviour sibling creation involve IVF and PGD. In a typical round of treatment between six and eight embryos will be created. Let us imagine that four embryos out of those created are viable, in that they are the most likely to implant successfully. Out of those four embryos, let us further imagine that only one meets the criteria of the parents, (whether this criteria is a particular gender or a particular tissue type). If this suitable embryo is implanted, it may develop into a child and be born alive. If it is not implanted, it will certainly die.⁵⁵⁷ It is difficult to argue that the embryo has no interest in being born. In relation to sex-selection specifically, the option for the embryo is not whether or not it has an interest in being born as a male or female, because it already has a gender at the point at which it is selected or discarded. Sex-selection through PGD does not seek to alter the gender of the embryo. It seeks, merely, to select an embryo with the desired gender. If it is not selected, it will not survive and will not be born. So it is not a question of whether the child has ‘an interest in being of one sex rather than the other’, but whether it has an interest in being born. The question is, therefore, the same for both sex-selection and saviour sibling creation.

It is instructive to apply the reasoning that the HFEA adopted in the context of sex-selection to saviour siblings. There are two elements to consider here. The first is the approach that the HFEA adopted in relation to potential physical harm. The second is the approach adopted in relation to potential psychological harm.

⁵⁵⁶ ‘The interests of the embryo, if they point anywhere, must point to being born’, in Sonia Harris-Short, ‘Regulating Reproduction: Frozen Embryos, Consent, Welfare and the Equality Myth’ in Stephen W. Smith and Ronan Deazley (eds), *The Legal, Medical and Cultural Regulation of the Body: Transformation and Transgression* (Ashgate Publishing 2009), 66.

⁵⁵⁷ Unless it is donated to another couple, or kept alive for 14 days to be used for research purposes.

In relation to potential physical harm, it is arguable that certain of the procedures intended to be carried out on saviour siblings after birth could cause harm to the child, in particular physical harm within the definition advanced by Feinberg.

In relation to bone marrow donation, this can be performed in two ways. The first is peripheral blood stem cell donation (PBSC). The donor receives an injection of a medication called filgrastim every day for four days before the PBSC donation takes place, which increases the number of stem cells in the blood. On the fifth day, blood is taken via a tube, which is inserted into a vein using a needle, then fed through a machine which separates the stem cells from the blood. The most common side effects include: bone pain; fatigue; nausea; and headaches. However, donors can also suffer from: chest pain; dizziness; sleeping difficulties; and night sweats.⁵⁵⁸

The second method involves the removal of bone marrow. The procedure takes place in an operating room. The donor is usually placed under general anaesthetic. The side effects and risks related to general anaesthesia are well-documented.⁵⁵⁹ A needle is inserted through the skin of the donor into the hipbone. The bone marrow is extracted through the needle. This procedure is repeated several times on each side of the hip.⁵⁶⁰ After the procedure, the donor

⁵⁵⁸ — — ‘Bone Marrow Donation - How it is Performed’ (*NHS Choices* 25 May 2012) <www.nhs.uk/Conditions/Bone-marrow-donation/Pages/How-is-it-performed.aspx> accessed on 26 August 2013.

⁵⁵⁹ They include the following: around one in three patients will feel sick and vomit after surgery; the patient may suffer from confusion and memory loss; one in five patients will suffer from a chest infection; the patient may suffer from bladder problems; and general bruising and soreness may result from injections and drips. Other risks include: permanent nerve damage, paralysis and numbness; a serious allergic reaction to the anaesthetic; stroke; heart attack; brain damage; and death, see — — ‘Anaesthetic, General’ (*NHS Choices* 26 October 2011) <www.nhs.uk/conditions/anaesthetic-general/Pages/Definition.aspx> accessed on 26 August 2013; Lisette Hilton, ‘Anesthesia, General’ (*Encyclopedia of Surgery*) <www.surgeryencyclopedia.com/A-Ce/Anesthesia-General.html> accessed on 26 August 2013. The NHS reports the risk of death to be approximately one per 100,000, see ‘Anaesthetic, General’. However, other organisations report the risk to be as high as one per 1,000, with infants under the age of one and those over the age of 70 being at greater risk, see ‘Anesthesia, General’.

⁵⁶⁰ — — ‘What’s it Like to Donate Stem Cells?’ (*American Cancer Society* 23 August 2012) <www.cancer.org/treatment/treatmentsandsideeffects/treatmenttypes/bonemarrowandperipheralbloodstemcelltransplant/stem-cell-transplant-donor-experience> accessed on 26 August 2013.

will need to remain in hospital for around two days.⁵⁶¹ It usually takes about five days to fully recover from the effects of the anaesthetic and the loss of the bone marrow taken. The areas from which the bone marrow is taken will normally be painful for several days after the procedure.⁵⁶²

The risks of the procedure include: that a needle may break inside the donor during the bone marrow harvesting; that the donor's blood pressure may become very low; that the donor may suffer from rashes, bruising, infection, or numbness near the sites where the harvests are made; that the donor may have trouble concentrating and sleeping; that the donor's body may start to feel stiff or limp and he or she may have trouble walking; that the donor may have severe pain in the hips, back, chest bone, and legs; that the donor may lose too much blood and need a blood transfusion; that blood vessels in the donor's heart, lungs and brain may become blocked by bone tissue or air travelling through the body, which could cause a heart attack, breathing problems, or a stroke.⁵⁶³ In addition to these risks, there is also no guarantee that the procedure will be successful the first, or even second time around.⁵⁶⁴ The donor may have to undergo the procedure several times before the donee is successfully treated. On each occasion, the donor will face the pain and risks of the procedure.

In relation to partial organ donation, the procedure is usually much more physically demanding, painful and onerous for the donor than bone marrow donation. Donating parts of organs attracts, in addition to the general risks of surgery, many other risks. The risks of donating part of a liver, for example, include: blood clots; small bowel obstructions; and

⁵⁶¹ Although, the ELC states that child donors will normally be released on the same day as the surgery takes place, see *PGD/HLA Typing Policy Research June* (n 500) Annex E, para 2.

⁵⁶² 'Bone Marrow Donation' (n 558).

⁵⁶³ — — 'Bone Marrow Harvesting' (*Drug Information Online*) <www.drugs.com/cg/bone-marrow-harvesting-precure.html> accessed on 26 August 2013

⁵⁶⁴ *ibid.*

bleeding problems.⁵⁶⁵

Both methods of bone marrow donation and partial organ donation involve pain to the donor. According to Feinberg's definition, physical 'hurts' do not in themselves amount to a harm. There is, therefore, no interest in not being hurt.⁵⁶⁶ However, these procedures could impede the donor's welfare interests where the consequences of the procedure are serious enough. Feinberg set out that:

An undesirable thing is harmful only when its presence is sufficient to impede an interest. When a given condition becomes extremely painful, of course, it does interfere with the pursuit of various goals and objectives, and that incapacitating effect renders it harmful as well as hurtful... the hurt is serious enough [to constitute a harm] if and only if it is either a symptom of a prior or concurrent harm of another order (as a pain in an arm may be the result and sign of a broken bone) or else it is in itself the cause of a consequential harm (e.g. mental breakdown) of another order.⁵⁶⁷

Therefore, if the donor, as a result of the procedure, suffers extreme pain (either physical or mental) through a consequential harm, such as permanent paralysis or a heart attack, this will constitute a harm. The risks of these sorts of consequential harms occurring are clearly established to be associated with the second method of bone marrow donation and partial organ donation. They are occasionally also associated with the first method of bone marrow donation.

⁵⁶⁵ Jennifer Heisler, 'How to Donate an Organ to a Friend or Family Member' (*About.com Surgery* 18 February 2011) <http://surgery.about.com/od/beforesurgery/ss/LRDonationTx_5.htm> accessed on 26 August 2013.

⁵⁶⁶ Feinberg, *The Moral Limits of the Criminal Law* (n 22) 47.

⁵⁶⁷ *ibid* 48.

In a more general sense, there is clearly a welfare interest in the possession of good health.⁵⁶⁸ Therefore, where the procedure causes long-term damage to the donor's good health, it will have harmed the donor. Again, the established risks associated with all three of the procedures set out above, (but most notably partial organ donation), are likely to damage the long-term health of the donor. Strokes, long-term brain or nerve damage, heart attacks and permanent paralysis are the clearest, but not exclusive, examples of this.

The main problem with this argument is causation. As argued above in relation to sex-selection, the process needs to be separated into distinct stages. It would be difficult to argue that parental neglect is caused by the act of selecting an embryo on the basis of its gender alone. In the same respect, it would be difficult to argue that the type of potential physical harm discussed above would be caused by the act of selecting an embryo on the basis of it being a tissue match alone. However, it is arguably more likely that causation could be established in the latter scenario, because there is a clear and very strong intention to use the resulting child as a saviour sibling where it is selected for that purpose alone.⁵⁶⁹ Were the embryo not selected for that purpose, it is highly unlikely that its body would be invaded in order to provide tissue and it is the act of *invasion* which directly gives rise to the harm, (albeit it is accepted that, strictly speaking, it is the act of invading the body and not the selection itself that causes the harm). Neglect and prejudicial treatment, by way of contrast, have their roots in a wide variety of different causes. It is highly unlikely that the embryo is being selected with the parental intention of being neglectful or prejudicial. In other words, saviour sibling embryos are selected with the express intention of using the tissue (or cord blood) of the resulting child, which is what causes the potential harm. Whereas sex-selected embryos are highly unlikely to be selected with the express intention of treating the resulting

⁵⁶⁸ *ibid* 37.

⁵⁶⁹ The procedure can be used where tissue typing is the sole objective, (as well as in combination with genetic testing in order to avoid disease), see 'Case by Case Decision Making' (n 517) 12, para 4.2.

child neglectfully or prejudicially, which would be what causes the harm.

Further, it is arguable that neglect and prejudicial treatment would be easier to establish in relation to saviour siblings than in the context of sex-selection because of the primary motivation behind selecting the embryo. Parents who seek to use sex-selection do so because they want another child, (albeit this is qualified by them wanting a child of a particular gender). Parents who seek to use saviour sibling technology do so in order to assist or ‘fix’ an existing child. This can be demonstrated by comparing the Mastertons with the Hashmis. The Mastertons wanted another child. This was their primary motivation in seeking sex-selection. They had considered their family to be of an adequate size when they had five children. However, after the death of one of those children, they wanted to have another child. This was qualified by the fact that they wished for this child to be female, (as was the child who had died). In relation to the Hashmis on the other hand, their primary motivation was arguably not to have a child, but to fix their existing child. It was the desire to fix their existing child that led them to seek treatment in order to produce a child who could fulfil this objective. This is evidenced by the fact that Mrs Hashmi had already produced a child without the use of PGD in the hope of helping Zain. However, this child was not a tissue match, so it did not fulfil their objective.⁵⁷⁰ Consequently, they sought treatment in order to produce a child to fulfil the specific purpose of providing tissue for Zain. Their primary motive had not been to have another child, as they could produce children naturally without the need to resort to reproductive technology, (which the Mastertons could not). Their primary motive appears to have been to help Zain. It is arguably more difficult to establish causation between selection and neglect or prejudicial treatment where the primary desire for selection was to produce another child (as the parents desired another child) than it is where the selection itself was

⁵⁷⁰ *Quintavalle* (HL) (n 479) para 3.

motivated by the primary desire to ‘fix’ the current child. Therefore, the HFEA would have been more justified in taking a strict precautionary approach⁵⁷¹ in relation to saviour sibling creation than sex-selection.

Let us look now at the approach adopted by the HFEA in order to surmount the issue. In relation to sex-selection for non-medical reasons, whilst it is difficult to envisage any physical harm being caused by the selection to a resulting child, the possibility of subsequent harm through parental neglect and prejudice was alleged to exist. This potential harm was taken into consideration, despite the difficulties with causation set out in chapter 3. A strict interpretation of the principle of precaution was a central justification for this approach. The HFEA ignored the fact that it could not establish causation and relied on the alleged potential harms regardless in order to justify a prohibition. In the context of saviour siblings, the need to employ the precautionary principle in relation to physical harms was circumvented altogether by the HFEA. In relation to the risk of potential physical harm occurring after birth, the issue was dismissed as irrelevant to the question at hand. It saw the logic behind the above arguments on causation and separated out the treatment of the embryo (which is *selected* for the particular purpose of using its bodily tissue) and the subsequent actual *extraction* of the tissue. The reason given for this was that laws existed to protect the position of the donor after birth and that we should assume that the resulting child will be provided with the full protection of the law.⁵⁷² Therefore, the process was separated into distinct stages. The pre-implantation stage was seen as attracting a different set of considerations to the post-birth stage, as the resulting child would be protected by existing laws after birth. This is correct.

⁵⁷¹ As adopted in relation to sex-selection.

⁵⁷² ‘I have no doubt that medical practitioners take very seriously the law that any operation upon a child for which there is no clinical reason relating to the child itself must be justified as being for other reasons in the child's best interests. If the question appears to be doubtful, a ruling from the court may be obtained. The authority is in my opinion entitled to assume that a child conceived pursuant to its licence will, after birth, receive the full protection of the law.’ *Quintavalle* (HL) (n 479) para 38.

However, the same would be true of children born as a result of sex-selection for non-medical reasons. The Children Act 1989 provides protection for children who are suffering or at risk of suffering significant harm. This would place sex-selected children in the same position as saviour siblings in terms of existing laws protecting them from harm post-birth. There is no reason to believe that those born as a result of sex-selection would not be afforded the full protection of the law, as with saviour siblings. Therefore, given the difficulties establishing that the selection causes the harm, as opposed to post-birth parental actions, it would have been consistent with the approach taken in relation to saviour siblings to treat potential harm to embryos as distinct from potential harm to children, (as the latter receive legal protection anyway).

The second element to consider is the approach taken towards potential *psychological* harm. As mentioned above, the evidential position is identical for both sex-selection and saviour siblings. Due to a lacuna in the evidence, we simply do not know whether and to what extent the procedures may cause psychological harm to the resulting child. Nevertheless, it would be difficult for the HFEA to argue that children resulting from sex-selection for non-medical reasons are any more likely to be psychologically harmed by this selection than saviour siblings. If anything, the saviour sibling scenario provides more opportunity for harm, both physical and psychological, than sex-selection. Firstly, psychological harm could arise out of the physical invasion of the resulting child's body. In other words, the psychological impact of having bone marrow taken or having part of an organ removed could be harmful to the resulting child. Secondly, as argued in relation to sex-selection for non-medical reasons, a resulting child could be caused psychological harm by discovering that it was chosen on the basis of its tissue type alone as an embryo. Although this is, admittedly, a tenuous argument, it is no more tenuous in this context than it was in relation to sex-selection. The HFEA

levelled this criticism at sex-selection and, therefore, it should also have been tackled as part of the saviour sibling debate.

In relation to psychological harm as with physical harm, there is no justification for applying a lesser degree of precaution towards psychological harm caused by saviour sibling creation. In each scenario, there was a distinct lack of substantiating evidence. In each case, there was a risk of psychological harm. A consistent approach to precaution should have been adopted towards psychological harm across the two contexts. This approach should, as argued in chapter 3, have been that applied to saviour siblings. In the absence of consistency, the HFEA should have provided a sound justification for the lack of uniformity. As has been discussed above, the HFEA not only failed to provide a sound justification for interpreting the precautionary principle much more leniently in the context of saviour siblings, it failed to even make it explicit that it was adopting such an interpretation. This is unsatisfactory.

(iii) The Media and Potential Political Explanations

When the wider social and political context is considered, some potential explanations for the permissibility of saviour siblings become apparent. Consideration of the treatment of saviour siblings by the media is crucial in understanding this. On the whole, families seeking to conceive a saviour sibling have received a sympathetic response from the media. There are a number of examples of the media describing the plight and desperation of real children and families seeking saviour siblings in order to save lives. The first relates to the Hashmis, (discussed above). Their situation was reported in the media in a manner that was likely to provoke support from the general public. Their desperate attempts to conceive a child who could ‘save’ Zain were documented, as well as the failed attempts at conception⁵⁷³ and

⁵⁷³ ‘Raj and Shahana Hashmi, the couple who fought for the right to have a tissue-matched [IVF](#) baby to save the life of their son Zain, are stopping treatment after six unsuccessful attempts. The couple's doctors are now

miscarriages suffered by Mrs Hashmi.⁵⁷⁴ The details and day-to-day adverse consequences of Zain's illness were set out in a very emotive way. In November 2004, *The Times* published an article about 5-year-old Zain himself pleading for bone marrow donors to come forward:

Yesterday [Zain] braved the attention of the media to explain in his own words that the right donor was the simple solution to saving his life... "I have broken bone marrow. I've already had 100 blood transfusions and I take lots of medicine."⁵⁷⁵

The second example relates to the Mariethoz family and their daughter, Charlotte. In May 2006 an article in *The Sunday Times* set out the plight of 21-month-old Charlotte, who suffers from Diamond Blackfan Anaemia (DBA). She was reported to be the size and weight of an average 3-month-old child due to her illness. Her mother, Catherine, was desperate to save her daughter's life through creating a saviour sibling.⁵⁷⁶

These first two examples demonstrate that the media communicated several issues relating to saviour siblings to the public: firstly, that creating such a child was about saving the life of a very ill child; secondly, that the illnesses suffered by the children, and the fact that these children may die if they could not either find a suitable donor or be assisted by a saviour sibling, were having a devastating impact on their parents; and, finally, the fact that the parents of such children were desperate to help their children to survive.

reluctant to continue because of Shahana's age (40), and because of the stressful effects of the treatment... Shahana said: 'I had convinced myself that this was going to be the time we got a chance to save Zain's life', adding 'we feel so, so, sad'. — — 'Hashmis Fail in 'Saviour Sibling' Attempt' (9 July 2004) *BioNews* <www.bionews.org.uk/page_12031.asp?hlight=saviour+sibling> accessed on 3 February 2014.

⁵⁷⁴ — — 'Hashmis Suffer Miscarriage Setback' (10 December 2003) *BioNews* <www.bionews.org.uk/page_11807.asp?hlight=saviour+sibling> accessed on 3 February 2014.

⁵⁷⁵ Anna Patty, 'Please Save Me, Pleads Bone Marrow Boy, 5' (25 November 2004) *The Times* <www.thetimes.co.uk/tto/health/article1881210.ece> accessed on 4 February 2014.

⁵⁷⁶ — — 'A Sibling to be my Saviour' (14 May 2006) *The Times* <www.thesundaytimes.co.uk/sto/news/uk_news/article202147.ece> accessed on 4 February 2014

The third example relates to the Whitaker family. Four-year-old Charlie suffered from DBA.⁵⁷⁷ The Whitakers' application for treatment was refused by the HFEA in 2002 as, at that point, its policy did not support granting applications where the procedure was not being used, in part, to avoid a serious defect in the selected embryo.⁵⁷⁸ The Whitakers, therefore, sought treatment in Chicago and in June 2003, Mrs Whitaker gave birth to baby James. The stem cells from James' umbilical cord were used to treat Charlie. This treatment was successful. The results of the treatment received attention from the media. It was reported that:

Charlie Whitaker, the boy at the centre of a fierce debate over so-called 'saviour siblings', is 'effectively cured' of his rare blood condition... tests show that Charlie's bone marrow now looks 'entirely normal', according to Ajay Vora, consultant haematologist at Sheffield Children's Hospital... Vora stressed that Charlie would need to be followed up to be '100 per cent certain' of the success, but said that so far 'what we have seen looks to be very, very positive', and that Charlie could now look forward to a normal quality of life. Before the transplant, Charlie required blood transfusions every three weeks, and drug infusions nearly every night. His mother Michelle told BBC News Online: 'Charlie's energy level has changed dramatically. He is on the go constantly - he is just like a different person'.⁵⁷⁹

⁵⁷⁷ *The Observer* provided the following graphic description of the consequences of Charlie Whitaker's illness before he was 'saved' by his sibling: 'Charlie spent more time in hospital than out. Apart from the transfusions, he was regularly admitted with infections. Then there were the daily injections. "We had to stick a needle in his stomach every night, and hook him up to a pump for 12 hours," says Michelle. "I couldn't do it. Jayson did it, because he was stronger. And as Charlie got older and started talking, he would be crying: 'Please don't hurt me. You don't love me. Why are you hurting me?' I just couldn't cope with that.'" Caroline Davies, 'My Jamie is Not a 'Designer Baby': he has Given his Brother a New Life' (21 June 2009) *The Observer* <www.theguardian.com/science/2009/jun/21/my-sisters-keeper-embryo-selection> accessed on 4 February 2014.

⁵⁷⁸ The changes to HFEA policy were discussed earlier in this chapter.

⁵⁷⁹ — — "Saviour Sibling' Cell Transplant Cures Boy', (21 October 2004) *BioNews*

<www.bionews.org.uk/page_12144.asp?hlight=saviour+sibling> accessed on 3 February 2014. See also: — — 'Charlie Whitaker Cured by 'Saviour Sibling' (22 August 2005) *BioNews* <www.bionews.org.uk/page_12478.asp?hlight=saviour+sibling> accessed on 3 February 2014.

This demonstrates that the media was publicizing two further issues in relation to saviour siblings. Firstly, and very significantly, the Whitakers were a clear example of the incredible benefits that saviour sibling creation could offer to seriously ill children and their families. There was now clear and compelling evidence that the procedure could save lives. For the first time, the ‘happy ending’ offered by saviour sibling creation could actually be seen. Secondly, the general public were being made aware of the fact that, where treatment was refused in the UK, parents were desperate enough to travel abroad for it.⁵⁸⁰

The final example relates to the Fletchers. Their two-year-old son also suffered from DBA. In April 2004, less than a year after the birth of saviour sibling James Whitaker, the Fletchers applied to the HFEA to approve the procedure in their case. As set out above, the HFEA changed its policy on saviour siblings in 2004. The HFEA approved a license for the treatment to be carried out in this instance. Saviour sibling, Jodie, was born in July 2005.⁵⁸¹ Two key issues were reported by the media in relation to the Fletchers. The first was that certain medical practitioners were supporting the procedure. For example, it was reported that Dr Taranassi, the doctor who had treated the Fletchers, had felt so strongly about the legitimacy of the treatment that he had threatened to challenge the ban in court.⁵⁸² Further, at around the same time it was reported that:

‘Changes to rules that control the creation of ‘saviour siblings’ could benefit hundreds of couples and save the health services hundreds of millions of pounds a year, a leading IVF

⁵⁸⁰ The Hashmis had also threatened to travel abroad for treatment, see: Robin McKie, ‘We’ll Try Abroad if Lords Rule ‘No’ - Gene Baby Couple’ (6 March 2005) *The Observer* <www.theguardian.com/science/2005/mar/06/genetics.health> accessed on 4 February 2014.

⁵⁸¹ B M Dickens, ‘Preimplantation genetic diagnosis and ‘saviour siblings’’, (2005) 88 *International Journal of Gynecology and Obstetrics* 91-96, 94.

⁵⁸² Juliet Tizzard, ‘HFEA comes under Pressure on ‘Saviour Siblings’ (13 April 2004) *BioNews* <www.bionews.org.uk/page_37735.asp?hlight=saviour+sibling> accessed on 3 February 2014.

expert told The Observer yesterday... Dr Simon Fishel - the only doctor to be given the go-ahead to create a saviour sibling in this country - said profound benefits would come from an expected decision by the Human Fertilisation and Embryology Authority (HFEA) to end its ban on the use of genetic screening techniques to create babies tissue-matched to sick brothers and sisters...'⁵⁸³

This arguably gave those seeking the procedure more credibility and enhanced the 'status' of the issue to a medical concern that was so pressing that doctors were urging for it to be able to go ahead. Secondly, the media publicized the potential financial benefits to the public purse of creating a saviour sibling and successfully treating an ill child:

'According to newspaper reports, three local health authorities in the UK have agreed to fund couples wanting to try and conceive a saviour sibling, and a further eight or nine are 'seriously considering' paying for the treatment. According to Simon Fishel, the fertility doctor treating the Hashmis, it costs around £1 million to treat someone with beta thalassaemia for life, whereas four attempts at IVF and PGD cost around £20,000.'⁵⁸⁴

To date, the media has continued to report on the issues relating to saviour sibling creation in a manner that is likely to invoke public sympathy and support.⁵⁸⁵ Indeed, it was reported whilst the Parliamentary debates were ongoing that there had been no 'widespread public objection' to saviour sibling creation, particularly in the Hashmi case.⁵⁸⁶ The potential

⁵⁸³ Robin McKie, 'Doctors Plead for 'Saviour Siblings'' (18 July 2004) *The Observer* <www.theguardian.com/science/2004/jul/18/genetics.health> accessed on 4 February 2014.

⁵⁸⁴ — — 'Fletcher Conceive 'Saviour Sibling' (29 November 2004) *BioNews* <www.bionews.org.uk/page_12183.asp?hlight=saviour+sibling> accessed on 3 February 2014.

⁵⁸⁵ For example, in 2011, *The Times* published an article confirming that Charlie Whitaker can now live a 'normal life' following the use of stem cells taken from brother, Jamie's, umbilical cord to treat him, see: Robin McKie, 'We'll Try Abroad if Lords Rule 'No'' (n 580).

⁵⁸⁶ Sheila A M McLean, 'Why have a Free Vote on 'Saviour Siblings'?' (9 April 2008) *BioNews* <www.bionews.org.uk/page_37987.asp?hlight=saviour+sibling> accessed on 3 February 2014.

political impact of the way in which the media has treated saviour sibling creation will be discussed below.

It should also be noted that whilst not all of the media discussions in relation to saviour sibling creation were positive and sympathetic, they were generally more positive than in relation to sex-selection for non-medical reasons. In relation to the latter, it was claimed that, in contrast to saviour siblings, '[m]oves to prevent couples being allowed to choose the sex of their baby for reasons other than medical concerns were welcomed [in 2003] by doctors, fertility experts and ethical watchdogs.'⁵⁸⁷ *The Guardian* reported that the public had been 'outraged' by the idea of sex-selection for non-medical reasons in 2003⁵⁸⁸ and, in 2006, it published an article urging people not to 'pander' to the 'consumerist... yearnings and fantasies' of sex-selection.⁵⁸⁹

There are arguably several political explanations as to why saviour sibling creation was ultimately permitted by Parliament, whereas sex-selection for non-medical reasons was not. In many respects, they are linked to the way in which the media treated the issues, as set out above. Firstly, as had been made very clear by the media in its reporting of families

⁵⁸⁷ — — 'What Gender Selection Involves' 12th November 2003 *Mail Online* <www.dailymail.co.uk/news/article-201891/What-gender-selection-involves.html> accessed on 19th February 2014.

⁵⁸⁸ Sarah Boseley, 'Public Outrage prompts Ban on Baby Sex Selection' 12th November 2003 *The Guardian* <www.theguardian.com/science/2003/nov/12/genetics.medicineandhealth> accessed on 19th February 2014. See also: Sarah Boseley, 'Call for Ban on Sex Choice Clinics' 13th December 2002 *The Guardian* <www.theguardian.com/uk/2002/dec/13/gender.genetics> accessed on 19th February 2014.

⁵⁸⁹ Anne Karpf, 'We must not Pander to these Consumerist Fantasies of Sex Selection' 25th November 2006 *The Guardian* <www.theguardian.com/lifeandstyle/2006/nov/25/familyandrelationships.family4> accessed on 19th February 2014. For other media reports which treat sex-selection for non-medical reasons unsympathetically, see: — — 'Rebel MPs Denounce 'Frankenstein' Baby Plan' 21st March 2005 *Mail Online* <www.dailymail.co.uk/news/article-342569/Rebel-MPs-denounce-Frankenstein-baby-plan.html>; — — 'Couples Pay for Babies to Order' 4th March 2001 *Mail Online* <www.dailymail.co.uk/news/article-58419/Couples-pay-babies-order.html> accessed on 19th February 2014; — — 'Concern over baby sex 'guarantee'' 5th July 2001 *BBC News* <news.bbc.co.uk/1/hi/in_depth/health/2001/fertility_conference_2001/1423628.stm> accessed on 19th February 2014; and — — 'First Steps taken towards Designer Babies' undated *Mail Online* <www.dailymail.co.uk/health/article-359470/Fist-steps-taken-designer-babies.html> accessed on 19th February 2014.

desperately seeking a saviour sibling, tissue typing in these cases was to be carried out with the ultimate aim of potentially saving the lives of real and existing children. These children were suffering from terrible, painful, conditions from which they may die if they could not be successfully treated. This scenario appears to have inspired much more media sympathy than sex-selection. MPs were aware of this, and the potential for saving lives and the terribleness of these illnesses was mentioned on several occasions during the Parliamentary debates on the issue.⁵⁹⁰ Permitting tissue typing in these circumstances was consistent with the ethos of the debates, which centered round finding cures for serious illnesses and trying to make things better for people who were suffering from, or may suffer from, serious illnesses in the future. Sex-selection for non-medical reasons, by way of contrast, was not seen as assisting in furthering this objective.

Secondly, in direct contrast to sex-selection for non-medical reasons, tissue typing for the purposes of producing a saviour sibling had already been licensed in certain instances by the time that the Bill was being debated by Parliament. Two notable instances of saviour siblings being produced and having been reported in the media have been discussed above, namely James Whitaker and Jodie Fletcher. There was no suggestion that either child had suffered, or was at risk of suffering, any harm. In fact, huge benefits had resulted from the birth of James, in that his brother Charlie had been ‘saved’ by James’ umbilical cord stem cells so successfully that he was now living a healthy, normal life. MPs were aware of the procedures that had been licensed and the fact that no adverse consequences had arisen. In fact, it was noted during the debates.⁵⁹¹ Against this background, it would have been difficult for MPs to

⁵⁹⁰ For example, see: Baroness Royall, HL 4 Dec 2007 col 1666, ‘the benefits offered by tissue typing are considerable. The Bill allows potentially life-saving treatments to be offered for children who are affected by serious medical conditions. In practice, tissue typing is only ever considered when all other options are exhausted’. Also see: Dr Harris, HC 12 May 2008 col 1139-1140; and Lord Walton, HL 4 Dec 2007 col 1661.

⁵⁹¹ See: Baroness Royall, HL 4 Dec 2007 col 1666; Baroness Royall, HL 21 January 2008 col 17; and Dr Harris, HC 12 May 2008 col 1154.

not support the procedure.

Thirdly, and related to the last point, couples such as the Hashmis and Whitakers had threatened to go abroad in order to produce a saviour sibling if the procedure was not permitted in the UK. The Whitakers had actually obtained treatment abroad and had been successful. In addition to this, unlike in relation to sex-selection, not only was there an absence of public opposition to the procedure, but doctors were also reported to be supporting the procedure to such an extent that certain of them were willing to challenge refusals by the HFEA by way of judicial review. This strength of support for the procedure, not only from those seeking it, but also medical practitioners, arguably added pressure upon MPs to vote in favour of the procedure. This was especially so in light of the fact that the views expressed by individual MPs during the Parliamentary debates, and how they voted, were exposed to public scrutiny via the media. For example, an article published by *BBC News* on the debates and votes in relation to saviour siblings set this information out, citing the names and political parties of individual politicians.⁵⁹² There are, therefore, a number of political reasons that must be taken into account when considering the distinction between the permissibility of saviour siblings when compared to sex-selection for non-medical reasons. The media played a significant role in this distinction. It may be that these considerations influenced the HFEA in completing its 2004 review. This would make the conclusions reached in the report easier to comprehend. However, if this was the case, then it should have been set out in the review document.

⁵⁹² For example, see: — — ‘MPs Reject ‘Saviour Sibling’ Ban’ (19 May 2008) *BBC News* <http://news.bbc.co.uk/1/hi/uk_politics/7409264.stm> accessed on 19th February 2014.

(c) Conclusions

The HFEA's 2004 paper⁵⁹³ considered the issues surrounding the permissibility of saviour siblings, including (1) public opinion and (2) the combination of potential harms and precaution. It has been argued in chapters 2 and 3 that these were the principal elements upon which the prohibition of sex-selection for non-medical reasons had been justified. In relation to saviour siblings the 2004 paper concluded that these elements did not constitute a justification for prohibiting the procedure. This conclusion resulted in changes to the policy on saviour siblings that led to its permissibility, now placed on a statutory footing in the 2008 Act.

It was apparent to the HFEA that these elements had been used to prohibit sex-selection and that, if the same reasoning were used in relation to saviour siblings, that procedure would also have to be banned. An inspection of the manner in which the HFEA applied these two elements to sex-selection, then to saviour siblings, reveals several inconsistencies in its approach.

Public opinion on saviour siblings was gathered using methods that were likely to elicit a more favourable response than those adopted in relation to sex-selection. The former approach appears to have been fairer. Reliance was then placed upon this public opinion in permitting the saviour sibling procedure, yet banning sex-selection for non-medical reasons. In relation to the harm principle itself, the HFEA acknowledged that two main disparities arose between the procedures: the treatment of the precautionary principle and the weight that would be placed upon potential psychological harms in determining the permissibility of

⁵⁹³ *PGD/HLA Typing Policy Research June* (n 500).

either procedure. In the context of sex-selection, the HFEA had interpreted the precautionary principle very stringently. The HFEA was adamant that, where there was any risk of harm, even unsubstantiated harm, precaution demanded that sex-selection for non-medical reasons be banned in its entirety. In the context of saviour siblings, the HFEA reversed its own approach and allowed for the procedure to be permitted in the absence of evidence to substantiate alleged risks of harm. The HFEA could see that there was a disparity between its treatment of the risk of unsubstantiated potential psychological harm across the two contexts. It dealt with this problem, not by attempting to justify its departure from its own earlier approach, but by simply denying the significance that it had earlier placed upon psychological harm. It asserted that ‘the speculative argument about psychological consequences was not decisive but merely supportive of the general conclusion’ to ban sex-selection for non-medical reasons.⁵⁹⁴ Chapter 3 has argued otherwise. The justifications provided by the HFEA for these inconsistencies do not stand up to scrutiny. Consequently, the law on sex-selection is difficult to reconcile with saviour sibling permissibility. The HFEA’s application of the principles of harm and precaution in relation to saviour siblings appears to work in that it is logical and proportionate. In the absence of an explicit and legitimate explanation to the contrary, the principles should have been applied in the same manner to sex-selection.

This chapter has also considered potential political and social explanations for the permissibility of saviour siblings. The media generally responded sympathetically towards the plight of those seeking saviour siblings and it recognised that the procedure was being sought in order to save lives. This was consistent with the ethos of the Parliamentary debates on the Bill in 2007-2008. Viewed in this context, it becomes easier to understand how saviour sibling creation was permitted whilst sex-selection for non-medical reasons was ultimately

⁵⁹⁴ *ibid* para 9.

banned.

PART II

CHAPTER 6

SEX-SELECTION AND SEX RATIO IMBALANCE: THE NORTH INDIAN STATE OF PUNJAB VS THE SOUTH INDIAN STATE OF KERALA

Sen famously spoke of 100 million ‘missing women’ in describing the worldwide sex ratio imbalance in the early 1990s.⁵⁹⁵ Yet even against the background of such a widespread crisis, Sen considered the sex ratio of the north-Indian state of Punjab to be ‘remarkably low’.⁵⁹⁶

Chapter 2 has established that, throughout the debates on sex-selection, potential sex ratio imbalance was used as an objection to sex-selection for non-medical reasons. India, alongside China, was used as an example of a country with a highly unbalanced sex ratio. The implication was that this scenario could arise within the UK were sex-selection for non-medical reasons to be permitted.⁵⁹⁷

This chapter will seek to examine whether this objection was justified. It will be argued firstly, that a complex range of cultural, social and economic factors have led to the sex ratio imbalance in India. This will be demonstrated through a comparison of the northern state of Punjab, (one of the worst affected states), with Kerala, (a southern state with a ‘balanced’ sex ratio). This will lead to the conclusion that it is the cultural, social and economic conditions

⁵⁹⁵ For examples of references to the term ‘missing women’ see: Amartya Sen, ‘Women’s Survival as a Developmental Problem’ (1989) 4(2) *Bulletin of the American Academy of Arts and Sciences* 14; ‘More than 100 Million Women are Missing’ (1990) 37(20) *New York Review of Books* 61; ‘Missing Women: Social Inequality Outweighs Women’s Survival Advantage in Asia and North Africa’ (1992) 304 *British Medical Journal* 587; ‘Many Faces of Gender Inequality’ (2001) 18(22) *Frontline* 4; ‘Missing Women – Revisited’ (2003) 327 *British Medical Journal* 1297. Sen’s estimates of the number of missing women have subsequently been reconsidered. Coale estimated the number to be closer to 60 million in Ansley J Coale, ‘Excess Female Mortality and the Balance of the Sexes: an Estimate of the Number of ‘Missing Females’’ (1991) 17 *Population and Development Review* 517. However, Klasen reviewed both Sen and Coale’s calculations and concluded that the number of missing women was actually around 90 million in 1994, see Stephan Klasen, ‘Missing Women Reconsidered’ (1994) 22 *World Development* 1061, 1068. Klasen and Wink concluded that the figure had risen to slightly over 100 million by 2003, in Stephan Klasen and Claudia Wink, “‘Missing Women’: Revisiting the Debate’ (2003) 9 *Feminist Economics* 263, 290. Regardless of which of these calculations we accept as accurate, there appears to be compelling evidence that there is a large deficit in the female population.

⁵⁹⁶ Sen, ‘More than 100 Million Women’ (n 595) 62; Sen, ‘Women’s Survival’ (n 595) 15.

⁵⁹⁷ Campbell (n 70); *Options for Regulation* (n 75) 17, para 63; People Science & Policy (n 162) 39-41, para 5.6; HL Deb 28 January 2008, vol 471, col 483-4.

that are determinative in relation to sex ratios, rather than the law. Secondly, it will be argued that, since the cultural, social and economic climate in the UK is highly different to that of Punjab, the UK will not develop a similar problem of an imbalanced sex ratio. Further, potential sex ratio imbalances amongst those of Punjabi ethnicity in the UK would be so statistically insignificant that this is not a legitimate justification for the prohibition.

The chapter will be structured in the following manner: firstly, the law on sex-selection in India will be set out; secondly, the problem with the sex ratio imbalance in Punjab will be explored. This will be contrasted with the ‘balanced’ sex ratio in Kerala; thirdly, the social, cultural and economic context of the law in each state will be considered in order to establish why there is such a difference in the sex ratios, despite the governing law being identical; fourthly, the extent to which son preference may have been transported to the UK through immigration will be considered; and finally, it will be argued that there is very little chance of a sex ratio imbalance occurring in the UK, (amongst the general population and the UK Punjabi population), as the social, cultural and economic factors that could lead to this, as demonstrated by the contrast between Punjab and Kerala, are largely absent.

(a) Punjab and Kerala Defined

Reference to Punjab in this chapter is predominantly to the north-Indian state of Punjab, as opposed to the Punjab region which is an area that stretches from central Pakistan to northwest India. This chapter will also discuss the Union Territory of Chandigarh. Chandigarh acts as the joint capital of Punjab and the neighbouring state of Haryana. Before the partition of India, the states of Haryana and Himachal Pradesh constituted part of Punjab. These states

will be referred to below. Reference to Kerala in this chapter is to the south-Indian state of Kerala, which is situated on the south-west coast of the country. Thiruvananthapuram is its capital.

The 2011 Census of India reveals that 62.51 per cent of Punjab's population are classed as rural and 37.49 per cent as urban. 52.28 per cent of Kerala's population are classed as rural, whilst 47.7 per cent are urban.⁵⁹⁸ In terms of income, Punjab is more prosperous than Kerala. It has one of the highest per capita incomes in India.⁵⁹⁹ Nevertheless, Kerala is well-known as the most socially developed of the Indian states. It is the highest ranking Indian state in the human development index, gender development index and social development index.⁶⁰⁰ The state is said to be more developed than certain 'developed' countries.⁶⁰¹ Its standards of public health services, longevity and literacy have been termed 'extraordinarily high'.⁶⁰² It has widely been reported that Kerala attributes women with generally 'high status'.⁶⁰³ Levels of health and literacy amongst women are comparable to men.⁶⁰⁴ Whilst Kerala outperforms Punjab educationally and in terms of life expectancy, Punjab still performs very well in these

⁵⁹⁸ Director of Census Operations Punjab, 'Census of India 2011, Rural – Urban Population (Provisional Totals) Data Sheet, Punjab' (*Census of India 2011*) <www.censusindia.gov.in/2011-prov-results/paper2/data_files/punjab/dco-punjab.pdf> accessed on 5 January 2013; Census Commissioner Ministry of Home Affairs India, 'Final Population Totals' (*Census of India 2011*) <www.censusindia.gov.in/2011census/censusinfodashboard/index.html> accessed on 26 August 2013.

⁵⁹⁹ Mary E John, Ravinder Kaur, Rajni Palriwala, Saraswati Raju, Alpana Sagar, 'Planning Families, Planning Gender: The Adverse Child Sex Ratio in Selected Districts of Madhya Pradesh, Rajasthan, Himachal Pradesh, Haryana and Punjab' (2008) New Delhi ActionAid, 33 <<http://www.cwds.ac.in/PlanningFamiliesPlanningGender.pdf>> accessed on 26 August 2013.

⁶⁰⁰ Ajith Kumar and Radha Devi, 'Health of Women in Kerala: Current Status and Emerging Issues' (2010) Centre for Socio-Economic and Environmental Studies Working Paper number 23, 1 <<http://csesindia.org/admin/modules/cms/docs/publication/24.pdf>> accessed on 26 August 2013.

⁶⁰¹ *ibid* 5.

⁶⁰² S Anitha, Reshma Bharadwaj, J Devika, Ranjini Krishnan, P R Nisha, K P Praveena, Reshma Radhakrishnan, S Irudaya Rajan, Rekha Raj, A K Rajasree, S Santhy, Binitha V Thampi and Usha Zacharias, *Gendering Governance or Governing Women? Politics, Patriarchy, and Democratic Decentralisation in Kerala State, India*, (Final Report, Kerala Centre for Development Studies 2008), 12 <http://gender-is-citizenship.net/sites/default/files/GenderingGovernance_Kerala.pdf> accessed on 26 August 2013.

⁶⁰³ See, for example: Centre for Development Studies Thiruvananthapuram Kerala, *Kerala: Human Development Report 2005* (State Planning Board Government of Kerala 2006), 20-40

<www.undp.org/content/dam/india/docs/human_develop_report_kerala_2005_full_report.pdf> accessed on 27 August 2013; Kumar, 'Health of Women in Kerala' (n 600) 6.

⁶⁰⁴ Kumar, 'Health of Women in Kerala' (n 600) 6.

areas when compared with other Indian states.⁶⁰⁵

(b) The Law in India

In 1994, the Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act was passed in India. It applied to all Indian states including Punjab and Kerala. In short, the legislation banned clinicians from using, or advertising the use of, pre-natal diagnostic techniques to establish the sex of the foetus. The Act also presumed that women who underwent such a procedure had been compelled to do so by their husband or other relatives. Those in breach of the provisions of the Act were liable to a fine or imprisonment.⁶⁰⁶ The legislation appears to have had little practical significance from its enactment until 2003, (as is evident from the increase in the sex ratio imbalance between the Censuses of 1991 and 2001, which will be discussed further below).⁶⁰⁷

In 2003, the Act was amended by the Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Amendment Act 2002. It has been argued that this was due to several key factors, including: that very little effort had been made to enforce the Act;⁶⁰⁸ that the 2001 Census clearly displayed India's worsening sex ratio; and that litigation had been pursued in the late 1990s by activists and other organisations attacking the lack of practical impact that

⁶⁰⁵ Rudra Prakash Pradhan, 'Gender Development in Education and Health: a Study of Indian States' (2007) 9(1) *Journal of Health and Management* 1, 9.

⁶⁰⁶ Guilmoto, 'Characteristics of Sex-Ratio Imbalance in India' (n 435) 21.

⁶⁰⁷ *ibid*; the 'prohibitions are full of loopholes and have proved to be almost impossible to enforce, so that sex-identification facilities continue to mushroom and reflect growing societal acceptance of medical techniques in the name of reproductive choice if not son preference', in Elisabeth Croll, *Endangered Daughters: Discrimination and Development in Asia* (Routledge 2000) 96; '...it appears that the enforcement of this law has been comprehensively neglected, and when questioned... the police often cited difficulties in achieving successful prosecution thanks to the reluctance of mothers to give evidence of use of such techniques', in Sen, 'Many Faces of Gender Inequality' (n 595).

⁶⁰⁸ Fred Arnold, Sunita Kishor, Tarun K Roy, 'Sex-Selective Abortions in India' (2002) 28(4) *Population and Development Review* 759, 763.

the 1994 Act had had.⁶⁰⁹ The amended Act was called the Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex-Selection) Act 1994.

The Act, as amended, prohibits ‘sex-selection’, (which appears to refer to all forms of selection, whether pre or post implantation),⁶¹⁰ and the sale of machines which can be used for the purposes of sex-determination to any person or establishment that is not registered under the Act.⁶¹¹ It requires that, after its commencement, all institutions with machines which are capable of determining the sex of a foetus must be registered under the Act’s provisions.⁶¹² The Act makes it clear that no pre-natal diagnostic techniques are to be used, other than for the purposes of detecting the following conditions:⁶¹³

- (i) Chromosomal abnormalities;
- (ii) Genetic metabolic diseases;
- (iii) Haemoglobinopathies;
- (iv) Sex-linked genetic diseases;
- (v) Congenital anomalies;
- (vi) Any other abnormalities or diseases as may be specified by the Central Supervisory Board.⁶¹⁴

The Act is clear that the advertising of machines capable of determining the sex of a foetus is prohibited. This prohibition includes the issuing, publishing, distribution and communication

⁶⁰⁹ Guilmo, ‘Characteristics of Sex-Ratio Imbalance in India’ (n 435) 21; Sabu M George, ‘Sex Selection/Determination in India: Contemporary Developments’ (2002) 10(19) *Roundtable / Reproductive Health Matters* 190, 192.

⁶¹⁰ Sections 3A and 6.

⁶¹¹ Section 3B.

⁶¹² Section 18(1).

⁶¹³ Sections 4(1) and (2).

⁶¹⁴ Section 4(2).

of any such advertisement in any form, or causing any of these acts to be done.⁶¹⁵

The presumption that a woman undergoing sex-determination has been compelled to do so has been retained.⁶¹⁶ In addition to this, section 4(5) provides that: ‘No person including a relative or husband of a woman shall seek or encourage the conduct of any sex-selection technique on her or him or both.’

In the event that a person or institution breaches the provisions of the Act they will be liable to imprisonment for up to 3 years and a fine of up to 10,000 rupees in the first instance, extending to a term of up to 5 years and a fine of up to 50,000 rupees in the event of further breaches.⁶¹⁷ The legislation also required the creation of several supervisory bodies to oversee and enforce the provisions of the Act.⁶¹⁸

The manner in which the amended Act has been implemented across India has received both praise and criticism.⁶¹⁹ In Punjab where, as will become apparent, the problem of pre-natal sex-determination and sex-selective abortion has been acute, the Act has been heavily publicised via newspapers, radio, television and other forms of media.⁶²⁰ There appears to have been a concerted effort to raise awareness of the Act and the problems relating to Punjab’s sex ratio, in particular the discrimination against girls. Punjab’s Department of

⁶¹⁵ Section 22.

⁶¹⁶ Section 24.

⁶¹⁷ Section 23.

⁶¹⁸ Section 7 sets out the creation of a Central Supervisory Board, which advises the Central Government on policy matters surrounding sex-determination and selection. It was also tasked with creating awareness about the problem, (s16). Similar Boards were to be set up for each individual State and Union Territory, (s16A). In addition to this, the Central Government was to appoint one or more Appropriate Authorities for each State or Union Territory. These Authorities were to deal with issues relating to registration of clinics and other establishments, supervision of and enforcement of the Act’s provisions and to create awareness about the issue, (s17).

⁶¹⁹ Guilmoto, ‘Characteristics of Sex-Ratio Imbalance in India’ (n 435) 21.

⁶²⁰ — — ‘Initiatives to Improve Sex Ratio in Punjab’ (*Department of Health and Family Welfare, Government of Punjab*) <<http://pbhealth.gov.in/major13.htm>> accessed on 26 August 2013.

Health website lists advertisements and literature that has been displayed and disseminated in order to achieve greater awareness. This includes messages displayed on the side of 605 buses and bus stops in Punjab and 40,000 posters having been distributed. In addition to this, state-wide song and drama competitions have been organised dealing with the social and cultural issues surrounding son preference. The state has also staged girl-only competitions for girls aged two and under, with cash prizes to be used for their future education.⁶²¹ Guilmoto cites a 2005 initiative in Punjab's district of Nawanshahr which aimed to raise awareness through encouraging female students and teachers to act as 'ambassadors of the drive against female foeticide'.⁶²² An electronic record of all pregnancies in Nawanshahr was made available to enable monitoring of abortions.⁶²³

However, there is still a need for continuing education in relation to sex-selection. A study conducted using 373 married women residing in slums and semi-rural areas in Chandigarh found that only 65.5 per cent of participants acknowledged that sex-determination was a crime. A mere 16.3 per cent were aware of the punishments for sex-determination being carried out and only 11.4 per cent were aware of the implications of female infanticide.⁶²⁴ The study concluded that, whilst the Government had worked considerably towards educating citizens about issues relating to the sex ratio problem, there was still a need to educate under-privileged women about the Act.⁶²⁵

Further, there is evidence to suggest that sex-selective abortions following sex-determination are still widespread in Punjab. A 2008 study by John and others found that sex-selective

⁶²¹ *ibid.*

⁶²² For more details as to the ways in which sex discrimination has been tackled in India, see Guilmoto, 'Characteristics of Sex-Ratio Imbalance in India' (n 435) 22 onwards.

⁶²³ *ibid* 22.

⁶²⁴ Sonia Puri, Vikas Bhatia and H M Swami, 'Gender Preference and Awareness Regarding Sex Determination among Married Women in Slums of Chandigarh' (2007) 32(1) *Indian Journal of Community Medicine* 60, 60-61.

⁶²⁵ *ibid* 61-62.

abortions, in both urban and rural areas, were continuing ‘unabated’ by the Act. This was despite families being aware that the procedure was an offence.⁶²⁶ The 2011 Census of India suggests that it is perhaps unfair to assert that the procedures are continuing in an unabated fashion.⁶²⁷ However, it does reflect the fact that they are continuing.

Whilst there have been reports of sex-selective abortion occurring in Kerala, the problem appears to be much more sporadic than in Punjab. A study by Sudha and others cited the first-hand experience of several clinicians and medical practitioners including a gynaecologist who said that: ‘Many people come to find the sex of the baby... If they have two or three girls they definitely come for scanning and terminate that pregnancy if it also a girl. Some doctors are ready to do this and these practices are increasing in number...’.⁶²⁸ However, whilst the study indicates that there is a demand for sex-selection in Kerala, this demand must be placed in perspective. The study found that whilst almost all respondents had heard of scans that could determine sex, ‘most’ were adverse to abortion on the grounds of sex and condemned it.⁶²⁹ Further, son preference in Kerala is by no means a longstanding issue. Although it has been argued that son preference is emerging in the state (as will be explored below), traditionally Kerala has been relatively free of it. Further, this study was carried out in 2002-2003.⁶³⁰ It was therefore carried out before the amended Act came into force. It is well-documented that there were problems with implementation prior to the amendment. In Kerala, measures have been taken to raise awareness about the problem. For example, marches have been held on a day

⁶²⁶ John (n 599) 62.

⁶²⁷ This will be discussed in further detail below.

⁶²⁸ Shreeniwas Sudha, Sunil Khanna, Irudaya Rajan and Roma Srivastava, ‘Is Son Preference Emerging among the Nayers of Kerala in South India?’, in Isabella Attane and Christopher Z Guilmoto (eds), ‘Watering the Neighbour’s Garden: The Growing Demographic Female Deficit in Asia’ (Paris Committee for International Cooperation in National Research in Demography 2007), 287

<http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012.

⁶²⁹ *ibid* 286.

⁶³⁰ *ibid* 273.

proclaimed by the Indian Medical Association to be ‘Girl Child Day’⁶³¹ and workshops have been held for those working with prenatal diagnostic techniques to learn more about the law.⁶³² The state has also appointed all necessary authorities required by the Act.⁶³³

The reality is that there are no conclusive statistics available on the extent to which sex-selective abortions are continuing to occur. Mishra and others have estimated that around 100,000 sex-selective abortions are carried out annually across India.⁶³⁴ A great deal of this appears to be in Punjab and certain of its neighbouring northern states.⁶³⁵

(c) Sex Ratios Compared: Punjab vs. Kerala

The natural sex ratio at birth is estimated to be between 105 – 107 boys to 100 girls, (in other words, 93.4 – 95.2 girls to 100 boys).⁶³⁶ However, by the time we reach the older generations in society, there are more surviving women than men.⁶³⁷ Waldron assessed the evidence surrounding this phenomenon and found that where males and females receive the same

⁶³¹ — — ‘Awareness March on Girl Day Held’ *The Hindu, India’s National Newspaper* (2 July 2007) <<http://www.hindu.com/2007/07/02/stories/2007070257410300.htm>> accessed on 25 August 2013.

⁶³² — — ‘Workshop on PNDT Act’ *The Hindu, India’s National Newspaper* (9 May 2008) <<http://www.hindu.com/2008/05/09/stories/2008050959540300.htm>> accessed on 25 August 2013.

⁶³³ National Commission for Women, *All India Conference of State Secretaries – Health, WCD, DGPS, and NGOs on implementation of the PC and PNDT Act*, (New Delhi, 11 August 2005) <<http://ncw.nic.in/pdfReports/PNDT%20Report.pdf>> accessed on 3 May 2012.

⁶³⁴ Udaya S Mishra, T R Dilip, Annie George, Anil Kumar, ‘Declining Child Sex Ratio (0-6 years) in India: A Review of Literature and Annotated Bibliography’ (2009) Thiruvananthapuram Centre for Development Studies, 9 <<http://india.unfpa.org/drive/Bibliography.pdf>> accessed on 26 August 2013.

⁶³⁵ Robert D Retherford and Tarun K Roy, ‘Factors Affecting Sex Selective Abortion in India and in 17 Major States’ (2003) National Family Health Survey Subject Reports number 21, 42-4 and 71 <<http://scholarspace.manoa.hawaii.edu/handle/10125/3488>> accessed on 26 August 2013. However, two issues should be noted. Firstly, the study suggests that instances of sex-selective abortion of male foetuses were found in Punjab. However, the numbers were extremely small when compared with sex-selective abortions of females, (71-2). Secondly, there was a suggestion that son preference in Punjab may be beginning to abate slightly and that therefore sex-selective abortions may be beginning to fall, (73). The significance of these factors will become apparent below when changes in the perception of sons are discussed.

⁶³⁶ Central Intelligence Agency ‘People and Society’ (*The World Factbook*) <www.cia.gov/library/publications/the-world-factbook/geos/xx.html> accessed on 26 August 2013.

Whilst this estimate has been questioned, it is generally accepted that, at birth, there are more boys than girls.

⁶³⁷ John (n 599) 1.

standards of nutrition and healthcare from birth onwards, (in most developed countries), the mortality rates of men are higher than those of women.⁶³⁸ It has been suggested that infant males are more vulnerable to ‘causes of death’ than females.⁶³⁹ Further, it has been argued that men are more likely to fall victim to death due to violence, excess alcohol consumption,⁶⁴⁰ smoking-related illnesses, and infectious diseases, such as HIV infection.⁶⁴¹

In the UK, the vast majority of Europe, the United States and Japan, there are more women in the general population than men.⁶⁴² The 2011 Census for England and Wales reveals that the sex ratio is around 103 females per 100 males, (or 96.8 males per 100 females).⁶⁴³ This is in stark contrast to the sex ratio in India. The 2011 Census of India reveals that India’s sex ratio currently stands at 94.3 females to every 100 males.⁶⁴⁴ This means that there are approximately 9 fewer women to every 100 men in India than there are in England and Wales.

(i) Sex Ratios

India’s sex ratio imbalance is a longstanding problem. The Census statistics over the past century reveal that India’s imbalanced sex ratio has been present for at least as long as official

⁶³⁸ Ingrid Waldron, ‘Sex Differences in Human Mortality’ (1983) 17 *Social Science and Medicine* 321, 321-4; ‘Recent Trends in Sex Mortality Ratios for Adults in Developed Countries’ (1993) 36 *Social Science and Medicine* 451, 451 and 458 onwards. However, Waldron found that in certain age groups the mortality sex ratio was becoming less imbalanced, (458 onwards); and Siddiq Osmani and Amartya Sen, ‘The Hidden Penalties of Gender Inequality: Fetal Origins of Ill-Health’ (2003) 1 *Economics and Human Biology* 105, 108.

⁶³⁹ Waldron, ‘Sex Differences in Human Mortality’, (n 638) 324.

⁶⁴⁰ *ibid* 325-6.

⁶⁴¹ Waldron argues that a higher proportion of smokers are male and this may lead to a higher risk of, amongst other illnesses, lung cancer and HIV infection, see: *ibid* 327-8; ‘The Contribution of Smoking to Sex Differences in Mortality’ (1986) 101 *Publ Hlth Rep* 163; ‘Recent Trends in Sex Mortality Ratios’ (n 638) 460. This has been argued specifically in relation to the UK, Europe, the US and Japan by Sen: ‘More than 100 Million Women’ (n 595) 62; ‘Missing Women’ (n 595) 587.

⁶⁴² In the United States, the Census statistics reveal that in 2010 there were 96.7 males per 100 females in the general population, (in other words, 103.3 females per 100 males), see U S Census Bureau, ‘Summary Population and Housing Characteristics’ (*US Census 2010* January 2013), 3 <www.census.gov/prod/cen2010/cph-1-1.pdf> accessed on 26 August 2013.

⁶⁴³ This has been calculated on the basis that there were around 28.5 million females to 27.6 million males. See Office for National Statistics, ‘2011 Census - Population and Household Estimates for England and Wales, March 2011’ (*Census of UK 2011* 16 July 2012) <www.ons.gov.uk/ons/dcp171778_270487.pdf> accessed on 5 January 2013.

⁶⁴⁴ Census Commissioner, ‘Final Population Totals’ (n 598).

statistics are available. Table 1 below shows India's sex ratio, as measured by every Census since 1901.⁶⁴⁵

Table 1 – India's Sex Ratio 1901 – 2011

Census Year	Sex Ratio for India (females per 1000 males)
1901	972
1911	964
1921	955
1931	950
1941	945
1951	946
1961	941
1971	930
1981	934
1991	927
2001	933
2011	943

The statistics appear to show that the sex ratio has improved since the last Census in 2001, at which point it was 933, 10 points lower than at present. The sex ratio is now, in fact, the most balanced that it has been since 1961.⁶⁴⁶ Nevertheless, there is an undeniable sex ratio imbalance in India. Further, the national ratio of 943 masks the sex ratio complexities within India itself.⁶⁴⁷ The country is divided into 28 states and seven Union Territories. There are wide variations between the sex ratios of these states and Union Territories. Even within each state, the ratio varies amongst the districts into which the state is divided. Punjab has

⁶⁴⁵ The information contained within the table was taken from Government of India 'Provisional Population Totals – Gender Composition' (*Census of India 2011*) at p. 97 <http://censusindia.gov.in/2011-prov-results/data_files/mp/06Gender%20Composition.pdf> accessed on 26 August 2013, save for the statistics relating to India's sex ratio in 2011, which have been amended by the final published statistics, see Census Commissioner, 'Final Population Totals' (n 598).

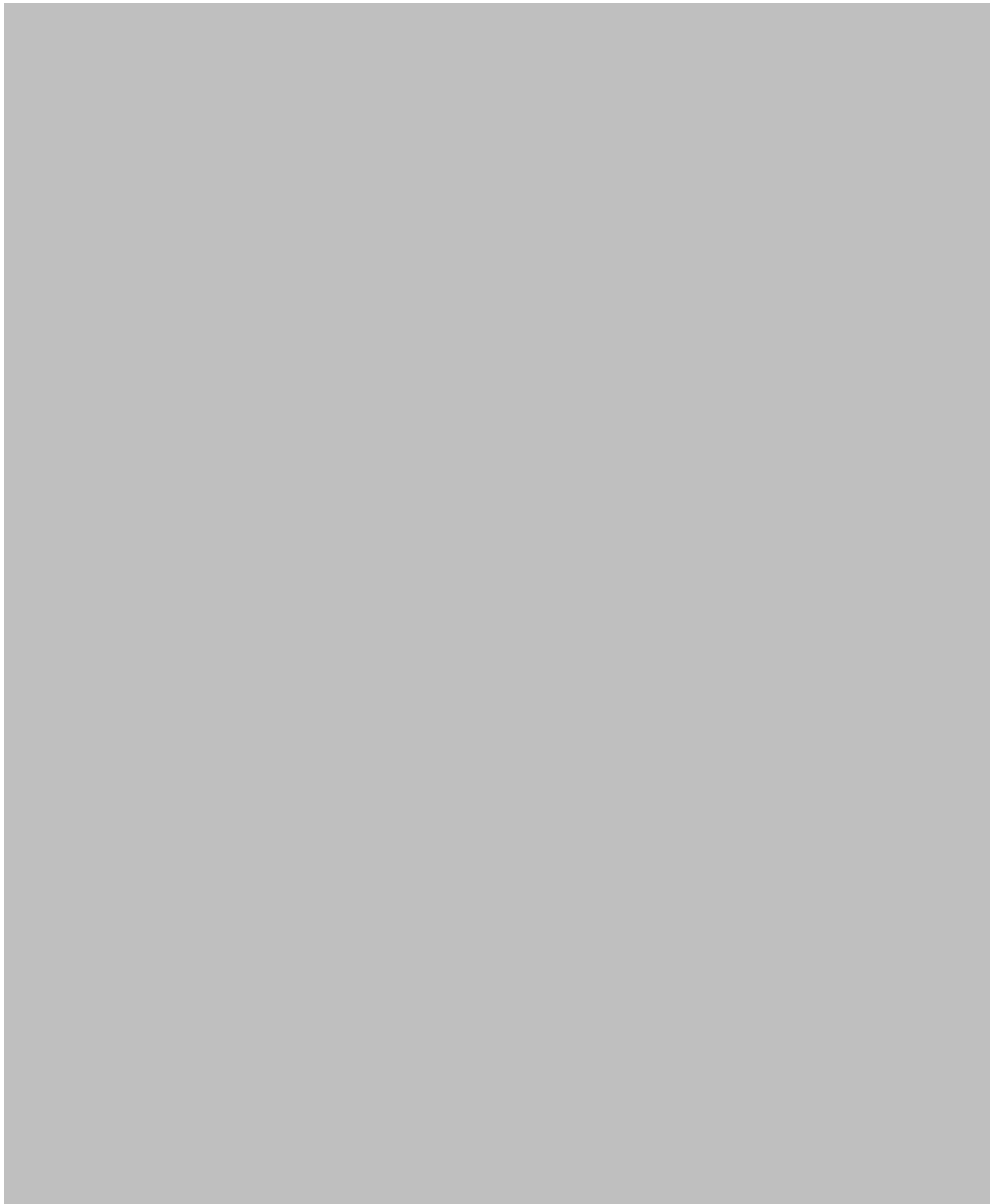
⁶⁴⁶ As noted in Census Commissioner Ministry of Home Affairs India, 'Gender Composition of the Population (Provisional Results)' (*Census of India 2011*), 78 <www.censusindia.gov.in/2011-prov-results/data_files/india/Final%20PPT%202011_chapter5.pdf> accessed on 5 January 2013. This document existed on the website <www.censusindia.gov.in> on 5 January when I last accessed it. However, it no longer appears on the website.

⁶⁴⁷ As noted by Arnold (n 608) 759.

historically been, and is currently one of, the worst affected. Kerala, on the other hand, displays a ratio more akin to that of the UK and United States, which are considered to be ‘normal’.

The map below shows India, as divided into states and Union Territories. Each state is named. Beside each state is a number representing its sex ratio, (referring to females per 1000 males).

Map of India with sex ratios taken from 2011 Census of India⁶⁴⁸



⁶⁴⁸ This map was originally taken from the 2011 Census of India, Census Commissioner, 'Gender Composition of the Population' (n 646) and subsequently amended.

Many have noted over the decades that there is a division between the north and south of India in terms of sex ratio. It is predominantly a problem in the north of the country and poses much less of an issue in the south. The map clearly illustrates this. In this context, Punjab, (and its capital of Chandigarh), has often been cited as the epitome of the northern sex ratio imbalance. Punjab has been contrasted with the much more ‘balanced’ Kerala, which is often used as a point of contrast with the northern states.⁶⁴⁹ It can be seen from the map that Kerala is one of the few states in which women outnumber men.⁶⁵⁰

Sex ratio statistics taken from all recorded Censuses of India for both Punjab and Kerala clearly demonstrate that there is a longstanding problem in Punjab, whereas Kerala’s general sex ratio has favoured women.

⁶⁴⁹ For example see Barbara Miller, *The Endangered Sex: Neglect of Female Children in Rural North India* (Cornell University Press 1981), 23; Sen, ‘Women’s Survival’ (n 595) 15 and 20; Sen, ‘More than 100 Million Women’ (n 595) 63; Satish B Agnihotri, ‘Missing Females: a Disaggregated Analysis’ [1995] *Economic and Political Weekly* 2075, 2075; Mamta Murthi, Anne-Catherine Guio and Jean Dreze, ‘Mortality, Fertility and Gender Bias in India: a District Level Analysis’ (1995) 21 *Population and Development Review* 745, 745; Elisabeth Croll, *Endangered Daughters: Discrimination and Development in Asia* (Routledge 2000), 49. However, Croll has warned that the situation is not as clear-cut as there being a north-south divide. She argues that ‘while son preference in the south may be less intense than in the north, this is not so everywhere in the south and is increasingly less so’, see Croll, 90. This has also been noted in other studies, such as in Anju Malhotra, Reeve Vanneman and Sunita Kishor, ‘Fertility, Dimensions of Patriarchy and Development in India’ (1995) 21(2) *Population and Development Review* 281, 290.

⁶⁵⁰ However, it is arguable that the sex ratio in Kerala could partially be due to outward migration of men to other states in India. The possibility of migration affecting sex ratios was noted and dismissed by Kelly, see: Narinder O Kelly, ‘Some Socio-Cultural Correlates of Indian Sex Ratios: Case Studies of Punjab and Kerala’ (PhD thesis, University of Pennsylvania 1975), 7 and 27-8. It must be borne in mind that migration is only one potential factor. Whilst it would explain a slight difference in the sex ratio between Kerala and Punjab, it goes nowhere near explaining the vast lacuna that has been present for many decades. Further, migration generally occurs amongst men, not very young boys. The sex ratio in Kerala for 0-6 year olds is still well within what is considered to be ‘balanced’.

Table 2 – Sex Ratios of Punjab and Kerala 1901 – 2011

Census Year	Sex Ratio for Punjab, (females per 1000 males)⁶⁵¹	Sex Ratio for Kerala, (females per 1000 males)⁶⁵²
1901	832	1004
1911	780	1008
1921	799	1011
1931	815	1022
1941	836	1027
1951	844	1028
1961	854	1022
1971	865	1016
1981	879	1032
1991	882	1036
2001	876	1058
2011	895	1084

It must be noted that general statistics relating to Punjab and Kerala disguise at least three elements. Firstly, there are differences in sex ratio according to which district we are considering within each state. The range of sex ratios amongst Punjab's districts spans from 865 in Bathinda to 962 in Hoshiarpur.⁶⁵³ In Kerala it ranges from 1006 in Idukki to 1129 in Pathanamthitta.⁶⁵⁴ The significance of this will be discussed further below.

Secondly, within each state there are numerous different castes, religions and social

⁶⁵¹ These statistics have been taken from: Aasha Kapur Mehta, 'Gender Responsive Budgeting: Issues related to the Health Sector in Punjab' (2011) New Delhi Indian Institute of Public Administration, 16 <http://pbplanning.gov.in/HDR/Gender%20Responsive%20Budgeting%20in%20Health%20in%20Punjab%20sent_pending.pdf> accessed on 26 August 2013. The figures have been amended in line with Census Commissioner, 'Final Population Totals' (n 598). It should be borne in mind that pre-1951 figures refer to pre-partition Punjab. Since the partition of India in the late 1940s, the boundaries of Punjab changed considerably. Nevertheless, for the purposes of this chapter, that is not significant, as modern day Punjab has always been contained within the geographical area surveyed as part of the pre-1951 Censuses.

⁶⁵² Census Commissioner Ministry of Home Affairs India, 'Provisional Population Totals Kerala Sex-Ratio for State and Districts: 1901-2011' Paper 1 Table 3 (*Census of India 2011*) <http://censusindia.gov.in/2011-prov-results/prov_data_products_kerala_.html> accessed on 13 July 2013.

⁶⁵³ Taken from the 2011 Census data, at Census of India 2011, 'Punjab population data, at a glance', (2011), at <www.censusindia.gov.in/2011-prov-results/data_files/punjab/Provisional%20Populatin%20Result%20Punjab1.pdf> accessed on 26 August 2013.

⁶⁵⁴ Census Commissioner, 'Provisional Population Totals Kerala Sex-Ratio' (n 652).

hierarchies.⁶⁵⁵ Whilst there is no definitive approach to sex-selection within each of these groups, there do appear to be general trends. In the north, including Punjab, landed and wealthy castes historically exhibited exceptionally high sex ratios.⁶⁵⁶ In the south, including in Kerala, the landed classes exhibit very little sex ratio discrepancy.⁶⁵⁷ Often, there is a preponderance of females. Amongst the northern and southern landless classes, there is evidence of more males than females. However, the discrepancies are much smaller than amongst the northern landed classes.⁶⁵⁸ This suggests that land and wealth is linked to a greater degree of son preference.⁶⁵⁹

Thirdly, the general statistics need to be broken down by age. The problem of Punjab's sex ratio imbalance is acutely illustrated when the ratio is divided into age groups. By doing so we can see that the sex ratio is much more imbalanced in the 0-6 age category than the older categories. This suggests two trends. Firstly, it suggests that fewer girls than boys are being born, (natality). It has been stated above that this is a natural phenomenon. However, the natural sex ratio imbalance in favour of boys at birth is generally thought to account for a ratio of around 950 girls per 1,000 boys, (in other words, around 104-107 boys per 100 girls).⁶⁶⁰ Table 4 below shows a much greater lacuna than this in Punjab and in India as a whole. Secondly, it suggests that fewer girls than boys are surviving in the early years, (mortality). The reasons for this must also be explored. Table 4 sets out the sex ratios for India, Punjab

⁶⁵⁵ The task of attempting to analyse trends according to these variations is complicated by the fact that post-1931 Censuses do not contain information about sex ratios according to caste or social status. This point was discussed in Miller, *The Endangered Sex* (n 649) 74.

⁶⁵⁶ *ibid* 75. However, these conclusions should be treated with caution as they are based on statistics gathered pre-1931, (74-80). Land is held predominantly by the Jat caste in Punjab. Gill found that over 81 per cent of all medium sized land holdings and 95 per cent of large land holdings are operated by Jats, see Manmohan Singh Gill, *Punjab Society: Perspectives and Challenges* (Concept Publishing Company 2003), 110-111. It has been estimated that Jats constitute about 20 per cent of Punjab's population, see — — 'Jat' (*Encyclopedia Britannica*) <www.britannica.com/EBchecked/topic/301575/Jat> accessed on 26 August 2013. However, other sources suggest that Jats make up a much larger percentage of Punjab's population than that, see — — 'Jatt' (*Sikhi Wiki* 25 August 2012) <www.sikhiwiki.org/index.php/Jatt> accessed on 26 August 2013.

⁶⁵⁷ Miller, *The Endangered Sex* (n 649) 79.

⁶⁵⁸ *ibid* 80.

⁶⁵⁹ This is discussed further below.

⁶⁶⁰ Kumar, 'Health of Women in Kerala' (n 600) 10.

and Kerala. It breaks the ratios down into: the sex ratio for children aged between 0-6 and the sex ratio for persons aged 7 years and over.⁶⁶¹

Table 3 – Sex Ratios in Punjab and Kerala for 0-6 year and 7+ year olds in 2011

	Sex Ratio 0-6 Years (females per 1000 males)	Sex Ratio 7+ Years (females per 1000 males)
India	919	944
Punjab	846	899
Kerala	964	1099

The table demonstrates that imbalances in sex ratio are more acute in the early years.⁶⁶² It is accepted that the natural sex ratio at birth is around 950. The theories and studies discussed above suggest that this gap should narrow as age increases so that throughout childhood and into adulthood it should decrease. Certainly in old-age, women should outnumber men. Table 3 shows that India's sex ratio in the 0-6 category is 919. This is lower than the estimated natural sex ratio at birth by 31 births per 1000. Further, the sex ratio could be expected to improve beyond birth until the age of 6 and thereafter. According to this, the sex ratio in the 0-6 category should be more equal than 950. There is, therefore, an unexplained gap.⁶⁶³ Punjab's sex ratio in the 0-6 category is 846. This is lower than the estimated natural sex ratio at birth by 104 births per 1000. Therefore, not only is there an unexplained gap in Punjab, the situation in this state is substantially worse than in India generally.

⁶⁶¹ The figures have been taken from Ministry of Home Affairs India, 'Sex Ratio of Total Population and Child Population in the Age Group 0-6 and 7+ years: 2001-2011' Statement 13 (*Censuses of India 2001-2011*) <www.imaginmor.com/census-of-india-2011.html#Statement%2012%20%20Sex%20ratio,%20India:%201901-2011> accessed on 26 August 2013. It should be noted that certain of the statistics were revised in the final version of the amended statistics, see Census of India 2011, Census Commissioner, 'Final Population Totals' (n 598). However, the above table has taken account of the revisions.

⁶⁶² However, these figures should be treated with a degree of caution as statistics purporting to set out the child sex ratio are affected by age-misreporting and under-enumeration. See: P N Mari Bhat, 'On the Trail of Missing Indian Females: I: Search for Clues, II: Illusion and Reality' (2002) 37 *Economic and Political Weekly* 5105, 5106. Further, the table does not contain the sex ratio at birth. The reason for this is that up-to-date statistics on this issue are difficult to find. Those that can be found are likely to be unreliable, due to uncertainty surrounding their sources and origins.

⁶⁶³ John (n 599) 16.

Kerala, on the other hand, displays a sex ratio for the 0-6 category of 964. This is higher than the estimated natural sex ratio at birth. The gap between girls and boys in Kerala generally continues to narrow with age until adulthood, at which point women outnumber men. This is in line with the theories on global sex ratio presented above. Therefore, there does not appear to be any significant problem with the sex ratio in Kerala.⁶⁶⁴

In relation to Punjab, and India as a whole, whilst sex ratios become slightly more balanced with age, they are still heavily weighted in favour of men in the adult age categories. The fact that they are so imbalanced in the early years suggests that something is happening both before birth and during early childhood to cause this. There is a gap of at least 104 births per 1000 in Punjab, that being the gap between the natural sex ratio at birth and the actual sex ratio displayed during early childhood. This deficit needs to be accounted for.

(ii) Sources of Female Death in Punjab and Kerala

The deficit in India's sex ratio has come about through a variety of actions and inactions. The

⁶⁶⁴ It has been suggested that even Kerala's sex ratio in the 0-6 category has begun to show cause for concern in recent years, as the sex ratio for this age category has been declining since the Census of 1971. It has been argued that this could be attributed to sex-selective abortion, see Kumar, 'Health of Women in Kerala' (n 600) 10. Rajan and others support this view and argue that juvenile sex ratios in certain districts of Kerala are beginning to show signs of being skewed in favour of males. See Irudaya Rajan, Shreeniwas Sudha and P. Mohanachandran, 'Development, Fertility Decline and Worsening Son preference in India: Is Kerala no longer an Exception?' [2000] *Development and Change* 1085, 1087. However, these arguments appear to have been exaggerated for the following reasons. Firstly, these criticisms were raised before the publication of the figures from the 2011 Census. This Census clearly shows that Kerala's sex ratio in the 0-6 category has actually become more balanced over the past decade, (it has moved from 960 in 2001 to 964 in 2011). The proportion of females in the general population in Kerala has grown from 1058 in 2001 to 1084 in 2011. Secondly, the current sex ratio for the category 0-6 of 964 is still 14 points above the natural sex ratio of circa 950, as noted in Centre for Development Studies Thiruvananthapuram Kerala, *Kerala: Human Development Report* (n 603) 21.

Thirdly, Rajan's suggestions of 'very masculine' sex ratios have related to only two of Kerala's districts, Kottayam and Kollam, (1089). These sex ratios at birth have, at their lowest, involved estimated ratios of around 111-113, so between 6 to 8 points above the natural sex ratio at birth of 105. The estimated sex ratios at birth were, at their worst, 111 in Kottayam, (1089). This is still nowhere near the highly unbalanced sex ratios of Punjab. In fact, most of Kerala's districts are either consistent with the natural sex ratio, or display more feminine sex ratios at birth than expected. It should also be remembered that there is very little research examining this issue, see Sudha, 'Is Son Preference Emerging among the Nayars of Kerala' (n 628) 269-270. Potential reasons for the emergence for son preference in the state will be discussed below.

imbalance is not just engineered through sex-selection – whether through pre-conception methods such as PGD and sperm sorting or through sex-determination followed by selective abortion – referred to as ‘natality’. It is also created through mortality, due to neglect of females and female infanticide. It is important to consider all of these methods in order to demonstrate that the pre-conception methods that were the subject of the debates leading to the HFE Act 2008, (namely, PGD and sperm sorting), are very small contributors to Punjab’s sex ratio imbalance. The combination of sex-selective abortion and neglect is by far the largest avenue to sex ratio imbalance. This is supplemented by unfortunate incidences of infanticide. Infanticide, neglect, sex-selective abortion and pre-conception sex-selective technologies will now be considered in turn.

The first method, female infanticide, is the most extreme form of sex-selection considered in this chapter. There is very little evidence to suggest that infanticide, targeted specifically at females, occurs in Kerala today.⁶⁶⁵ Where infanticide does occur in the south, it tends to occur in ‘pockets’, rather than it being widespread throughout the districts.⁶⁶⁶

Infanticide is associated predominantly with the north of India. The historical use of infanticide in Punjab has been widely documented.⁶⁶⁷ It has been especially pronounced amongst the Jat and Rajput castes.⁶⁶⁸ In the early 1980s, Miller argued that in the north, about

⁶⁶⁵ Certain studies have found that infanticide is practiced in certain parts of Tamil Nadu, a southern state that neighbours Kerala. For example, a study published in the 1990s by George and others found that infanticide had occurred in six out of twelve villages studied. In these villages, female infanticide had accounted for 72 per cent of infant female deaths, see: Sabu George, Rajaratnam Abel and Barbara D Miller, ‘Female Infanticide in Rural South India’ (1998) 12(3) *Women Studies* 1818. However, there is very little evidence that it is happening in Kerala.

⁶⁶⁶ Croll (n 649) 54.

⁶⁶⁷ For example, see: L S Vishwanath, ‘Female Infanticide: The Colonial Experience’ (2004) 39 *Economic and Political Weekly* 2313, 2313 onwards; and the discussion by Standing about the existence of infanticide and its connection to the dowry system in the Punjab in Hilary Standing, *Punjabi Kinship and Marriage* (Delhi Hindustan Publishing Corporation 1981), 156.

⁶⁶⁸ The Jat caste is a landowning and farming caste. The Rajputs are thought to originate from ruling warrior classes, see Gurjeet K Gill, ‘Female Feticide as a Contemporary Cultural Practice in the Punjab’ (1998) 23 *Dialectical Anthropology* 203, 207-8.

one quarter of the population had killed around half of their girls.⁶⁶⁹ In the late 1980s, Patel found that in the north and west of India, including Punjab, female infanticide was still practiced.⁶⁷⁰ A 2008 study by John and others considered attitudes towards infanticide across several northern and north-central states, including the Punjab. They found that while participants did not admit to engaging in such killing, ‘there were plenty of voices that testified to its practice’. They studied the Punjab district of Fatehgarh Sahib and found that, when questioning on the issue of infanticide, ‘the voices were those of *dais* [birth attendants or midwives], who talked of the past, or even the present, when they had been asked to kill girl children but had refused’. Furthermore, in most places studied, participants afforded ‘proverbs showing that daughter-elimination was a part and parcel of daily life’.⁶⁷¹ Nevertheless, the estimated incidents of female infanticide in Punjab are far less significant in accounting for female deaths and less widespread than the second of the methods to be discussed in this chapter, neglect of the female child.⁶⁷²

There is clear evidence of children being neglected in both Punjab and Kerala. However, girls in Punjab tend to suffer from neglect to a much greater extent, when compared to boys, than in Kerala.⁶⁷³ Two main elements of neglect will be briefly considered below, malnutrition and inadequate medical care.

⁶⁶⁹ Miller, *The Endangered Sex* (n 649) 49-53. In addition to this, she found that certain caste groups were much more prone to committing infanticide than others. Amongst those most at risk were the Jats, Gujars, Tagas, Ahars, Rajputs, Minas, and Ahirs, all upper or middle tiers of the caste system, (55). On this issue also see Barbara Miller, ‘Female Infanticide and Child Neglect in Rural North India’ in Scheper-Hughes N (ed) *Child Survival* (Dordrecht D Reidel Publishing Co 1987), 95-112; Croll (n 649) 53. The relevance of Miller’s estimates is compromised by the fact that they were based on statistics from the 1930s. However, there is more recent evidence of infanticide, which will be set out below.

⁶⁷⁰ Vibhuti Patel, ‘Sex Determination and Sex-Preselection Tests in India: Modern Techniques of Femicide’ (1989) 21(5) *Bulletin of Concerned Asian Scholars* 2, 2-10.

⁶⁷¹ John (n 599) 58.

⁶⁷² Croll (n 649) 54.

⁶⁷³ For example, see: Perianayagam Arokiasamy, ‘Regional Patterns of Sex Bias and Excess Female Child Mortality in India’ (2002) 59(6) *Population (English edition)* 833, 845-7, 850 and 852.

In the northern states, notably Punjab, sex ratio imbalance has been ascribed to the intentional neglect of girls in relation to both food intake and medical care.⁶⁷⁴ Das Gupta found clear evidence of a deficit between the care afforded to boys and that given to girls in terms of food and medical care.⁶⁷⁵ Her study reveals that amongst those aged between 1-23 months, female mortality rates were nearly twice those of males. Up to four years of age, female mortality rates continued to be far higher. She also found that for females, mortality rates amongst infants were considerably higher than for newborns. This is a sharp contrast to male infant mortality, which was about half that of newborn males. She concluded that this was a clear indication of 'behavioural' factors, in other words, neglect.⁶⁷⁶ In relation to food intake specifically, there is evidence to suggest that in Punjab boys are breast fed for longer than girls. This can cause a number of health problems for those weaned too soon, which can lead to death.⁶⁷⁷

There is substantial evidence to suggest that girls in Punjab are discriminated against to a much greater degree than boys in relation to the medical attention that they receive. Inadequate medical care for girls in Punjab has been found to be a cause of the differentials in mortality between girls and boys. In 2000, Croll concluded that there were notable

⁶⁷⁴ See: Monica Das Gupta, 'Selective Discrimination against Female Children in Rural Punjab, India' (1987) 13(1) *Population and Development Review* 77, 77; S Ghosh, 'Discrimination against the Female Child' (1990) 1(4) *Indian Journal of Maternal Child Health* 104, 105-107. It must be noted that amongst the richer castes and richer parts of Punjab neglect is not as widespread and the rate of female mortality due to neglect is considerably lower than poorer states and areas. This is not to say that neglect through inadequate food, healthcare and clothing of girls does not happen amongst the wealthy, there is evidence to suggest that it does, see Amartya Sen, *Commodities and Capabilities* (North Holland 1985), 88-95. This did not relate exclusively to Punjab, but many Indian states. However, as John and others have pointed out, it is in these circles that pre-birth measures are most clearly demonstrated and tend to be more often used, see: John (n 599) 60, considered further below.

⁶⁷⁵ *ibid* Das Gupta, 86.

⁶⁷⁶ *ibid* 81.

⁶⁷⁷ Franklin J Levinson, 'An Economic Analysis of Malnutrition Among Young Children in Rural India', (PhD thesis, Cornell University 1972), 75; Kelly (n 650) 140; S Good (ed), *Violence Against Women* (Arihant Publications 1990), 74. However, it should be noted that others have found no difference in the age of weaning between the sexes, for example: Oscar Lewis, *Village Life in Northern India: Studies in a Delhi Village* (Random House Vintage Books 1965), 49; Stanley A Freed and Ruth S Freed, 'Shanti Nagar: The Effects of Urbanization in a Village in North India: Social Organization' (1976) 53(1) *Anthropological Papers of the American Museum of Natural History* 11, 73.

unexplained differences in the duration and intensity of medical treatment between the sexes in Punjab.⁶⁷⁸ Miller found that, in the north of India including Punjab, for every two or more boys admitted to hospital only one girl was admitted.⁶⁷⁹ In her 1987 paper, Das Gupta found that twice as much was spent on medical care for male children aged up to one year as it was on female children of that age. This, she concluded, could account for the differences in mortality.⁶⁸⁰ Other studies lend support for this. For example, it has been found that the chances of being fully vaccinated are lower for girls than boys of the same birth order.⁶⁸¹ In 1990, Das Gupta confirmed her earlier findings. In a study on infant death clustering within families, using data from Ludhiana in Punjab, she found that there was a higher probability of mortality for girls at all ages after the first month of life. A significant factor in this was concluded to be deprivation of care.⁶⁸² Furthermore, Das Gupta's 1987 study suggests that the neglect of female children is affected by birth order. Second, third or latter born daughters have a 70 per cent higher risk of mortality before reaching the age of 5.⁶⁸³ She found, therefore, that neglect is employed selectively. It is arguable that this demonstrates a higher degree of intent and voluntary action.⁶⁸⁴

Recent studies have revealed that parenting standards and practices in Kerala are generally much more positive. Some have even gone so far as to label child rearing standards as 'high'

⁶⁷⁸ Croll (n 649) 105.

⁶⁷⁹ Miller, *The Endangered Sex* (n 649) 100-1.

⁶⁸⁰ Das Gupta, 'Selective Discrimination against Female Children' (n 674) 86.

⁶⁸¹ Arokiasamy, 'Sex Ratio at Birth and Excess Female Child Mortality' (n 435) 66.

⁶⁸² Monica Das Gupta, 'Death Clustering, Mother's Education and the Determinants of Child Mortality in Rural Punjab, India' (1990) 44 *Population Studies* 489, 499.

⁶⁸³ Das Gupta, 'Selective Discrimination against Female Children' (n 674) 95.

⁶⁸⁴ *ibid.* However, again, we must be cautious in generalising by treating all districts and areas within the Punjab as being the same. There are areas of the Punjab that have improved drastically over the past few decades. Take the city of Morinda, in Punjab's district of Rupnagar as an example. Malnutrition among children aged between 6 – 24 months in rural areas of the Punjab was studied 30 years after the original study in 1971. The original study had concluded that mortality rates and malnutrition were high and that the difference between the sexes in this regard was the highest ever recorded in a study concerning India. The follow-up study in 2001 found 'dramatic' improvements in all three of these areas. See James Levinson, Sucheta Mehra, Dorothy Levinson, Anita K Chauhan, Guy Koppe, Brian Bence and Astier M Almedom, 'Morinda Revisited: Changes in Nutritional Well-Being and Gender Differences After 30 Years of Rapid Economic Growth in Rural Punjab', (2004) 25 *Food Nutr Bull* 221.

in relation to childcare in the early years of a child's life.⁶⁸⁵ An analysis of two major national surveys on nutrition of under-fives in Indian states⁶⁸⁶ concluded that of all states surveyed,⁶⁸⁷ Kerala demonstrated the lowest prevalence of under-nutrition in children⁶⁸⁸. The data indicated that whilst there was a higher incidence of 'severe malnutrition' amongst girls, girls were, nevertheless, generally in a better position than boys when all categories of malnutrition were considered together, (mild, moderate and severe).⁶⁸⁹ Historically and to date, female life expectancy has been higher than male life expectancy.⁶⁹⁰ Infant deaths in Kerala are generally very low. There is very little difference in the rates between males and females.⁶⁹¹ In fact, girls have a better nutritional status⁶⁹² than boys in the state.⁶⁹³

The third method to be considered is sex-selective abortion. India first made abortions legal in the 1970s under the provisions of the Medical Termination of Pregnancy Act 1971. This law applied in both Punjab and Kerala. Abortion is only lawful, however, where: continuation of the pregnancy will cause grave injury to the woman's mental or physical health; the pregnancy will place the woman's life in danger; the pregnancy occurred as a result of rape; the pregnancy occurred as a result of contraceptive failure;⁶⁹⁴ or the child is likely to be born

⁶⁸⁵ M K C Nair, L Sumaraj, L Padmamohan, R Radhakrishnan, V Rajasenan Nair, B George and G Suresh Kumar, 'Parenting Practices in Kerala: A Cross-Sectional Study', (2007) 2(1) *Vulnerable Children and Youth Studies* 71.

⁶⁸⁶ Manoj Kumar Rai and Jyothi Vailaya, 'The National Nutrition Scene: an Analysis of Results of Two National Surveys' (1996) 33 *Indian Pediatrics* 305. The paper considered statistics provided by the National Nutrition Monitoring Bureau and the National Family Health Bureau. However, the paper did acknowledge its own limitations. It based nutritional status on growth-performance in under-fives. It recognised that other factors indicating malnutrition, such as anaemia and micronutrient deficiencies also needed to be considered in order to provide a comprehensive picture of nutritional status, (305-6). Nevertheless, the survey provides a very valuable summary of nutrition amongst Indian children.

⁶⁸⁷ Surveyed states included: Kerala; Tamil Nadu; Maharashtra; Andhra Pradesh; Karnataka; Gujarat; Madhya Pradesh; and Orissa.

⁶⁸⁸ Rai, 'The National Nutrition Scene' (n 686) 307.

⁶⁸⁹ *ibid* 306-307.

⁶⁹⁰ Kumar, 'Health of Women in Kerala' (n 600) 11-12.

⁶⁹¹ *ibid* 14. The number of children to die aged under one year, (the infant mortality rate), is thought to be the best determinant of health as the probability of death at this age is higher than at any other age and it is very susceptible to the quality and availability of medical care.

⁶⁹² Indicators of nutritional status include wasting, stunted growth, being under-weight, and anaemia, *ibid* 15.

⁶⁹³ *ibid* 16.

⁶⁹⁴ This applies only to married women.

with serious mental or physical abnormalities. Abortion on the grounds of sex is not permitted. There are no accurate statistics on the numbers of abortions, let alone sex-selective abortions, being carried out.⁶⁹⁵ Nevertheless, there is compelling evidence to suggest that sex-selective abortion has been occurring and has contributed greatly to the current sex ratio imbalance.

Amniocentesis became available in Punjab in 1979 and at that time it was openly and increasingly publicised.⁶⁹⁶ Technologies capable of determining the sex of foetuses brought about a 'new discriminatory regime' in the country.⁶⁹⁷ The procedures were swift, relatively private and much simpler than committing infanticide.⁶⁹⁸ Gill discusses fieldwork that she carried out in the towns of Amritsar and Ludhiana in 1995 and 1996. She discovered, through speaking with medical practitioners, that when amniocentesis first became available in the 1970s, people commonly thought of it as a 'miracle' that the sex of their foetus could be discovered before birth. They felt that they now had the choice of 'being blessed with a son'.⁶⁹⁹

In the 1980s and 1990s, those studying the issue of growing sex ratio imbalance in Punjab, and India as a whole, were attributing it to growth in sex-selective abortions.⁷⁰⁰ A 1993 study in Chandigarh revealed that almost three quarters of suburban women interviewed were aware

⁶⁹⁵ Arnold (n 608) 761-2.

⁶⁹⁶ Croll (n 649) 60; George, 'Sex Selection/Determination in India' (n 609) 190.

⁶⁹⁷ Guilamoto, 'Characteristics of Sex-Ratio Imbalance in India' (n 435) 3.

⁶⁹⁸ *ibid.*

⁶⁹⁹ Gill, 'Female Feticide as a Contemporary Cultural Practice' (n 668) 204.

⁷⁰⁰ Studies in Punjab from the early 1980s show that all respondents had heard of amniocentesis as a means of identifying sex. Around three quarters of women interviewed felt that, where a couple already had two or more daughters, a female foetus should be aborted, see Shreeniwas Sudha and Irudaya Rajan, 'Female Demographic Disadvantage in India 1981-1991' (1999) 30 *Development and Change* 598, 598; R K Sachar, R Sehgal, J Verma, V Prakesh and W P Singh, 'The Female Child – a Picture of Denials and Deprivations' (1990) 1(4) *Indian Journal of Maternal Child Health* 124, 125. Whilst demographers and government officials in India in the 1990s showed resistance to the 'abortion explanation', (as set out in Michel Guillot, 'The Dynamics of the Population Sex Ratio in India, 1971-96' (2002) 56(1) *Population Studies* 56), they eventually began to acknowledge that the growth in the use of sex-determination technologies accounted for the 'largest share' of the sex ratio imbalance, see Attane, 'Watering the Neighbour's Garden' (n 435), 4.

of the availability of sex-determination. Further, it found that whilst nearly three quarters of those interviewed classed abortion as a 'sin', when probed further, 95 per cent of those interviewed agreed that they would favour an abortion where the sex of the foetus was known to be female.⁷⁰¹

The growing rate of sex-selective abortion in Punjab, its neighbouring state of Haryana, and their shared capital, Chandigarh, has been evidenced during numerous studies.⁷⁰² In the 2008 study by John and others, views of participants were elicited in relation to sex-selective abortion. It was found that, whilst the 'older generation' generally saw abortion as sinful, this did not appear to have manifested itself, nor affected the practical reality that sex-selective abortions were being carried out. The point was made that a 'very practical attitude' had been adopted towards the procedure and, given that it was 'committed by a machine', it provoked little guilt.⁷⁰³

⁷⁰¹ Manmeet Kaur, 'Female Feticide – a Sociological Perspective' (1993) 39(1) *Journal of Family Welfare* 40, 41-42.

⁷⁰² For example, see: Monica Das Gupta and P N Mari Bhat, 'Fertility Decline and Increased Manifestation of Sex Bias in India' (1997) 51 *Population Studies* 307; Ashish Bose, 'Fighting Female Foeticide: Growing Greed and Shrinking Child Sex Ratio' (2001) 36 *Economic and Political Weekly* 3427, 3427-9; Carl Haub and O P Sharma, 'India's Population Reality: Reconciling Change and Tradition' (2006) 61(3) *Population Bulletin* 7; B Nanda, 'Campaign against Female Foeticide: Perspectives, Strategies and Experiences' in Tulsi Patel (ed), *Sex Selective Abortion in India: Gender, Society and New Reproductive Technologies*, (Sage Publications 2006), 357-365; Christopher Z Guilmoto and Isabelle Attane, 'The Geography of Deteriorating Child Sex Ratio in China and India' in Isabella Attane and Christopher Z Guilmoto (eds), 'Watering the Neighbour's Garden: the Growing Demographic Female Deficit in Asia' (Paris Committee for International Cooperation in National Research in Demography 2007), 116 <http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012; Sutapa Agrawal and Sayeed Unisa, 'Discrimination from Conception to Childhood: A Study of Girl Children in Rural Haryana, India' in Isabella Attane and Christopher Z Guilmoto (eds), 'Watering the Neighbour's Garden: the Growing Demographic Female Deficit in Asia' (Paris Committee for International Cooperation in National Research in Demography 2007), 247 <http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012. Many of these studies have focussed upon the deficit of girls amongst sex ratios at birth. This has been set out in table 3 above. The cause of the deficit at birth must be something that is happening prior to birth, or at the point of birth. It has been concluded that one of the key reasons for this deficit is sex-determination followed by selective abortion. For an analysis of this see: P N Mari Bhat and Francis Xavier, 'Factors Influencing the Use of Prenatal Diagnostic Techniques and Sex Ratio at Birth in India' in Isabella Attane and Christopher Z Guilmoto (eds), 'Watering the Neighbour's Garden: the Growing Demographic Female Deficit in Asia' (Paris Committee for International Cooperation in National Research in Demography 2007) 137-138 <http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012; Arokiasamy, 'Sex Ratio at Birth and Excess Female Child Mortality' (n 435) 58-59.

⁷⁰³ John (n 599) 58-9. Further, numerous statistical analyses have confirmed the hypothesis that sex-selective abortions account for a significant part of the sex ratio imbalance. For example, Arnold and others considered

It is thought that the most frequently used method of sex-determination today is ultrasound.⁷⁰⁴

An ultrasound scan can cost as little as £5.⁷⁰⁵ A second trimester abortion in India costs around 2000 – 3000 rupees,⁷⁰⁶ which amounts to approximately £25 – £37.50.⁷⁰⁷

Despite this growth in technological sex-determination, it must be noted that John and others found that in Punjab ‘indigenous’ or herbal methods of sex-selection are still relied upon.⁷⁰⁸

Deras (religious individuals), frequently supply such remedies. They note that whilst Punjab is one of the most willing and able states in the use of sex-determinative and selective technologies, it also displays an attachment to tradition methods of sex-selection. They conclude that this is a reflection of the ‘desperation for sons’.⁷⁰⁹ In any case, all of this reflects a further move towards ‘deliberate, planned strategies’ to eliminate girls in the state.⁷¹⁰

sex ratios at birth alongside reports of using technology capable of determining sex that was followed by abortion. They found this information in the National Family Health Survey, see Arnold (n 608) 759. They considered whether there was a correlation between the numbers of abortions, (spontaneous and induced) and the number of living daughters and sons across India’s states. They found that in India, generally, women with no sons are more likely to use ultrasound or amniocentesis than women with one or more sons, (774). Further, they found that induced abortions increase as the number of living sons a woman has increases, (770). However, this is much more pronounced in Punjab than Kerala and ultrasound in general is more prevalent in Punjab than Kerala, (774). From this they concluded that in numerous parts of India, in particular in Punjab, as well as Haryana and Gujarat, increased use has been made of ultrasound in order to determine the sex of a foetus, leading to sex-selective abortions, (782). The hypothesis that there is a greater misuse of technologies capable of detecting sex as the birth order rises has also been supported by Mari Bhat and Francis Xavier. They found that misuse for first birth is about 10 per cent, whereas for births into families with four or more existing children, misuse is thought to be up to 40 per cent. Greatest misuse was found amongst women with one or more daughters but no sons. Mari Bhat and Francis Xavier estimated that it was misused between 24-51 per cent of the time in such circumstances, see Mari Bhat, ‘Factors Influencing the Use of Prenatal Diagnostic Techniques’ (n 702) 147-8. This indicates once again that sex-selection is a calculated and planned process.

⁷⁰⁴ Arnold (n 608) 762.

⁷⁰⁵ Peter Wonacott, ‘India’s Skewed Sex Ratio Puts GE Sales in Spotlight’ (*Centre for Genetics and Society* 19 April 2007) <www.geneticsandsociety.org/article.php?id=3450> accessed on 26 August 2013. The quoted amount was expressed in dollars, as \$8. According to the current exchange rate, this amounts to £5.05, see — — (*Dollars to Pounds Conversion*) <www.dollars2pounds.com/> accessed on 26 August 2013.

⁷⁰⁶ Ravi Duggal, ‘The Political Economy of Abortion in India: Cost and Expenditure Patterns’ (2004) 12(24) *Reproductive Health Matters* 130, 130-7.

⁷⁰⁷ According to the current exchange rate, see — — (*Rupees to Pounds Conversion*) <www.rupees2pounds.com/> accessed on 26 August 2013.

⁷⁰⁸ John (n 599) 56.

⁷⁰⁹ *ibid* 61.

⁷¹⁰ *ibid* 53.

The final group of methods to be discussed in this section are pre-conception methods, namely sperm sorting and PGD. There is evidence, openly available on the internet, to support the belief that such methods are available in India.⁷¹¹ Nevertheless, there are several reasons why it is unlikely that in the near future these methods will be used substantially more than they currently are. Firstly, they are very expensive. A search of advertisements and clinics online reveals that PGD is quoted as costing around \$5,000⁷¹² – \$8,500,⁷¹³ including the costs of IVF. This is the equivalent, at the current exchange rate, of £3157 – £5367.⁷¹⁴ Sperm sorting reportedly costs between \$2,500 – \$3,200,⁷¹⁵ which amounts to between £1573 – £2014.⁷¹⁶ Ultrasound followed by an abortion, on the other hand, costs as little as £30, (as set out above). It is unlikely, in all but the highest tiers of society, that people would be able to afford pre-conception treatments. When the expense of the two procedures is compared, sex-selective abortion is a much more affordable option. Secondly, both sperm sorting and PGD

⁷¹¹ Dr Malpani of Malpani Infertility Clinic wrote a letter to the journal *Human Reproduction* explaining that his clinic had been offering sex-selection for ‘family balancing’ via PGD since 1999 and had carried out this treatment on 28 patients, see Aniruddha Malpani, ‘PGD and Sex Selection’ (2002) 17 *Human Reproduction, Letters to the Editors* 517, 517. The Malpani clinic was in fact the first reported instance of PGD being used for sex-selection for family balancing in India. There are also other advertisements, for example see — ‘Preimplantation Genetic Diagnosis (PGD) in India’ (*We Care Health Services*) <www.indiasurgerytour.com/ivf-india/ivf-treatment/india-pgd-preimplantation-genetic-diagnosis.html> accessed on 26 August 2013.

⁷¹² This was the cheapest quote found and was based upon combining a quote of \$2000-\$4000 for PGD without the cost of IVF, see — ‘Sex Selection’ (*We Care Health Services*) <<http://indiahealthtour.com/treatments/surrogacy/sex-selection-india.html>> accessed on 26 August 2013, with the lowest quoted cost of IVF of \$3,000 - \$3,500, see — ‘How to Balance the IVF Cost per Cycle with the IVF Success Rate’ (*IVF Cost*) <www.ivfcost.net/ivf-cost/ivf-cost-at-krishna-ivf-clinic-india-great-information> accessed on 1 July 2013.

⁷¹³ Runa Bora, ‘What is Preimplantation Genetic Diagnosis (PGD)? And how PGD Helps in Gender Selection of Child?’ (*India Study Channel* 14 January 2011) <www.indiastudychannel.com/resources/134691-What-Preimplantation-Genetic-Diagnosis-PGD.aspx> accessed on 26 August 2013. Most quotes were provided in US dollars as opposed to rupees, even though they appeared on websites advertising Indian clinics.

⁷¹⁴ *Dollars to Pounds Conversion* (n 705).

⁷¹⁵ This is based upon quoted figures in the United States, see: Chris A Gajilan, ‘Gender Selection a Reality, But is it Ethical?’ *CNN International Online* (17 November 2005) <http://articles.cnn.com/2005-11-16/health/pdg.gender.selection_1_pgd-sperm-separation-fertility-institutes?_s=PM:HEALTH> accessed on 25 August 2013; Rajani Bhatia, Rupsa Mallik and Shamita Dasgupta, ‘Sex Selection: New Technologies, New Forms of Gender Discrimination’ (*Committee on Women, Population and the Environment*, 1 October 2003) <www.cwpe.org/resources/healthrepro/sexselnewtech> accessed on 26 August 2013; Ronald Bailey, ‘Sexing Babies’ (*Reason.com* 6 October 2004) <<http://reason.com/archives/2004/10/06/sexing-babies>> accessed on 26 August 2013. It is very difficult to find costs for sperm sorting advertised in India.

⁷¹⁶ *Dollars to Pounds Conversion* (n 705).

require ‘well-equipped labs’. This is both expensive and technically demanding.⁷¹⁷ And finally, sex-selective abortions provide a high degree of certainty of outcome, in that it is highly unlikely that the abortion of the female child will not be successful. Pre-conception methods, on the other hand, are less likely to yield desired results. Several rounds of IVF and PGD may be required in order to conceive a child. Therefore, if people wish to ensure that they have a son rather than a daughter the most attractive and realistic option appears to be sex-selective abortion.

(d) Social, Cultural and Economic Climates Compared

There is a large difference between the sex ratios of Punjab and Kerala. There is compelling evidence to suggest that the use of infanticide, neglect and sex-selective abortions in order to produce a boy is much greater in Punjab than Kerala. The prime motivation behind this is, and has always been, the desire for sons.⁷¹⁸ Son preference has been instrumental in creating and sustaining the sex ratio imbalance in Punjab.⁷¹⁹ There is overwhelming evidence of son preference in Punjab.⁷²⁰ A heightened status is afforded to women with sons, as opposed to those with only daughters.⁷²¹ This is clearly demonstrated by the fact that the birth of a boy is heralded with great celebration and joy. The birth of a girl, on the other hand, is typically greeted with sadness that ranges from slight disappointment to extreme despair. Croll depicts the point perfectly when she describes the ‘loneliness and plight of the exhausted and

⁷¹⁷ Guilimoto, ‘Characteristics of Sex-Ratio Imbalance in India’ (n 435) 15.

⁷¹⁸ ‘In the absence of any biological basis, the cause of excess female child mortality is attributed to son preference, patriarchal structure and the consequent inferior position of women in society’, in Arokiasamy, ‘Sex Ratio at Birth and Excess Female Child Mortality’ (n 435) 61.

⁷¹⁹ Some have spoken about the issue in terms of discrimination against daughters rather than preference for sons, for example see Miller, *The Endangered Sex* (n 649) 35. Both terms will be used in this thesis.

⁷²⁰ This is evident from all of the studies discussed in this chapter.

⁷²¹ Anna Winkvist and Humaira Zareen Akhtar, ‘God Should Give Daughters to Rich Families Only: Attitudes Towards Childbearing among Low-Income Women in Punjab, Pakistan’ (2000) 51 *Social Science and Medicine* 73, 78. This study involved participants from the Punjab region of Pakistan.

sorrowing new mother who, in ‘searching for a boy’, had given birth to yet another girl’ being ‘a common figure in the ethnographic literature’.⁷²² There is a marked absence of such extreme reactions to the gender of a newborn child in literature relating to Kerala. The historic absence of son preference in Kerala has been at the heart of its much more balanced sex ratio.⁷²³

The next hurdle is to establish what factors have driven son preference in Punjab, the relative absence of which have led to Kerala remaining historically free from son preference. It has been theorised that son preference in Punjab is linked to, if not based upon, the fact that Punjab is a heavily patriarchal, patrilineal and patrilocal society that values men over women.⁷²⁴ Kerala provides a very different social context. In certain respects, the two states are polar opposites. In order to examine the factors that lie beneath son preference, the social, cultural and economic climates of the two states will be compared.⁷²⁵ This will be done by first setting out the traditional factors that have differentiated the two states and, secondly, by

⁷²² Croll (n 649) 97-98. Gill provides a detailed description of this from her own experience: ‘When I was growing up in the 1960s in a village in the Punjab, the news of the birth of a baby boy used to spread like wild fire. Some households decorated the main entrance of their dwellings to formally announce the birth of a son and to ward off evil spirits. If it was a first birth, the family immediately engaged in celebrations. Depending on the prosperity... of the household, its senior women marked the occasion by distributing *Gur* (molasses) and sweetmeats to families in the entire village and gifts to the lower caste workers who came to congratulate the family... No need to celebrate was felt if the new born infant was female. Quite often, if the birth was not talked about, it was understood that it was a baby girl, especially if it was a second or third one’, in Gill, ‘Female Feticide as a Contemporary Cultural Practice’ (n 668) 203. This difference in terms of celebration of a boy’s birth contrasted with the birth of girls going ‘unheard’ has been described by: Lewis (n 677) 49; Partap C Aggarwal, *Caste, Religion and Power: An Indian Case Study* (Shri Ram Centre for Industrial Relations 1971), 114; Miller, ‘Female Infanticide and Child Neglect’ (n 669), 95-6. For further examples of this see: Patricia Jeffery, Roger Jeffery and A Lyon, *Labour Pains and Labour Power: Women and Childbearing in India*, (Zed Books 1989), 4-5, 140-141, 145 and 186, (although this was based on Punjab’s neighbouring state of Uttar Pradesh); Patricia Jeffery and Roger Jeffery, *Don’t Marry Me to a Plowman! Women’s Everyday Lives in Rural North India* (Westview Press 1996), 155; Elisabeth Bulmiller, *May You be the Mother of a Hundred Son: A Journey among Women in India* (Penguin Books 1990), 103-4.

⁷²³ Sen, ‘Many Faces of Gender Inequality’ (n 595).

⁷²⁴ See for example: Kelly (n 650) 6 and 65. In the 1970s Kelly explained the differences in sex ratio between Punjab and Kerala on the basis of female child survival rates. This difference in survival rates, she found, was attributable to the fact that social structure and practices in Punjab place a ‘higher premium’ on the survival of boys rather than girls, (7); Tim Dyson and Mick Moore, ‘Gender Relations, Female Autonomy and Demographic Behaviour: Regional Contrasts within India’ (1983) 9 *Population and Development Review* 35. Dyson and Moore base the treatment of girls and low status of women in Punjab upon the state’s patriarchy.

⁷²⁵ The importance of examining these elements as features of the sex ratio imbalance has been stressed in Sen, ‘More than 100 Million Women’ (n 595) 64.

considering how recent developments in respect of these factors have impacted upon son preference.

A preliminary point to note about the following discussion is that there is no absolute agreement as to which factors influence the gender bias underlying sex ratios, and to what extent.⁷²⁶ For example, there are arguments both in support of and against the theories: that low levels of poverty decrease gender bias;⁷²⁷ that increased female literacy decreases gender bias;⁷²⁸ and that lowering levels of fertility decreases gender bias.⁷²⁹ There also exists contradictory research on whether low levels of female work outside of the home are linked to greater imbalances in sex ratio.⁷³⁰ In addition to this, it is difficult to separate causes from consequences. Nevertheless, this chapter will seek to set out general trends that have been found indicating, where relevant, the opposing view. Further, differences in gender bias according to literacy, poverty and decreases in fertility do not need to be considered in this

⁷²⁶ This is often dependent upon which of the other variables are present, see Murthi (n 649) 751-2.

⁷²⁷ A study by Booth and others in the 1990s found that increases in household income increased the use of sex-determination and, therefore, gender biased activities, see: Beverley E Booth, Manorama Verma and Rajbir S Beri, 'Fetal Sex Determination in Infants in Punjab, India: Correlations and Implications' (1994) 309(6994) *British Medical Journal* 1259, 1260. The wealthy state of Punjab is testament to this. Agarwal, on the other hand, has argued that gender bias is more prominent amongst the impoverished, see: Bina Agarwal, 'Gender, Environment, and Poverty Interlinks: Regional Variations and Temporal Shifts in Rural India' (1997) 25(1) *World Development* 23, 28-29.

⁷²⁸ Arokiasamy found clear evidence of greater gender bias amongst illiterate women in the north, see Arokiasamy, 'Sex Ratio at Birth and Excess Female Child Mortality' (n 435) 68. This has been supported by Bourne and Walker who argue that gender bias decreases as female literacy increases, see Katherine Bourne and George M Walker, 'The Differential Effect of Mothers' Education on Mortality of Boys and Girls in India' (1991) 45(2) *Population Studies* 203. However, Arokiasamy also noted that there exists contradictory evidence on this issue. For example, others have argued that education amongst women actually increases gender bias, see: Guilmoto, 'Characteristics of Sex-Ratio Imbalance in India' (n 435) 7; Mari Bhat, 'Factors Influencing the Use of Prenatal Diagnostic Techniques' (n 702) 151; John (n 599) 55.

⁷²⁹ Das Gupta suggests that low levels of fertility increase gender bias, see Monica Das Gupta, 'Fertility Decline in Punjab, India: Parallels with Historical Europe' (1995) 49 *Population Studies* 481, 489-490; Das Gupta, 'Selective Discrimination against Female Children' (n 674) 78. Whereas Murthi and others found that higher fertility increases gender bias and that fertility decline did not lead to an intensification of bias against females in terms of survival, see Murthi (n 649) 768.

⁷³⁰ Connections have been found between high levels of female work outside the home and low disparities in sex ratio, suggesting that greater work participation amongst women is linked to reduced son preference. Miller found that where the disparity between male and female work levels is low, the juvenile sex ratio is never high. However, where the disparity in work levels is high, sex ratios can range from high to low, see Miller, *The Endangered Sex* (n 649) 120-21. However, Das Gupta refutes that neglect of girls is caused by low female work participation, with particular regard to Punjab and its neighbouring state of Haryana, see Das Gupta, 'Selective Discrimination against Female Children' (n 674) 90-91.

chapter. This is due to the fact that both states have high levels of literacy and decreasing levels of fertility when compared with the rest of India. The variable of poverty is beyond the scope of this chapter as it is displayed in certain districts and amongst the lower castes in both states.

Croll argues that in this context our focus should be beyond the individual, to the wider family.⁷³¹ There is a balance of power when it comes to decision-making. It appears that the power lies, not in the hands of each individual woman, but the wider family and social network.⁷³² This will be borne in mind throughout this chapter.⁷³³

(i) Historic Differences between Punjab and Kerala affecting Son Preference: Warfare, Residence, Inheritance and Dowry

It is very important to view the role of sons in each state within its wider social and cultural history. For hundreds of years Punjab has been ridden with conflict and war. It is politically and socially volatile. As Kelly summarises:

Punjabi society is inured to violence not only from without, but from within as well, for it is historically a tribal society with opposing factions frequently at war with each other

⁷³¹ Croll (n 649) 106. This has also been reiterated in John (n 599) 64; and Frances Goldscheider, 'Interpolating Demography within Families and Households' (1995) 32 *Demography* 471, 472.

⁷³² '...an examination of the evidence from the five sites makes it clear that agency in the elimination of girl children or female foetuses are multiple. Even though a woman may on her own take the initiative to visit a doctor for contraceptives and/or take the decision to undergo a sex-determination test, and subsequently may even contemplate abortion, most often it has been seen that the ultimate right to decide on matters pertaining to family size, sex distribution, and fertility control lies with the man, or in some cases the extended family. The couple, the mother-in-law, the father-in-law, and the woman's parents are all actors in a system that systematically devalues the girl child and the mother without sons.' John (n 599) 63.

⁷³³ It should also be noted that daughters appear to be in a category distinct from other women, namely, mothers, mother-in-laws, wives and sisters. Whilst there is literature documenting discrimination in the latter categories, son preference appears to hit daughters hardest in that many of them lose their lives because of it. It has often been documented that daughters are treated differently to the other categories of women, see Croll (n 649) 19 and 152. For the purposes of this chapter, daughters (and sons) are the focus.

when not joined together against a common enemy. It is also a frontier society in the sense of unsettled social conditions in which status must not only be achieved but constantly safeguarded by each generation... Punjabi society is one in which the most valued attributes and achievements are traditionally those of the male: physical strength and prowess, virility etc...'⁷³⁴

Socially desirable characteristics are those that enable and enhance survival and success in such a climate. As Kelly notes, in Punjab's volatile climate, sons are attributed a heightened sense of importance, as society considers them to possess the characteristics which aid a family's success and survival. In other words, sons guarantee protection. Kelly was writing in the 1970s. Since that time, Punjab's unstable social and political climate has erupted into further violent conflicts on many occasions.⁷³⁵ Bloody battles have been fought within Punjab in every decade since Kelly's work, resulting in thousands of casualties. Most recently, the (currently stayed) hanging of Balwant Singh Rajoana, which had been scheduled to take place in March 2012, has sparked the threat of wide-scale rioting in Punjab. Many Punjabi Sikhs consider him to be a potential martyr.⁷³⁶ As a result, thousands of Indian troops, (almost

⁷³⁴ Kelly (n 650) 8-9. In their study of population growth and contraception use in Punjab's District of Ludhiana in the 1950s, Wyon and Gordon noted that village elders were aware of and could describe 'the unsettled life which characterized the Punjab of former centuries', see John B Wyon and John E Gordon, *The Khanna Study: Population Problems in the Rural Punjab* (Harvard University Press 1971), 62.

⁷³⁵ There were numerous violent battles during the 1970s and 1980s. At their epicentre was the killing of Jarnail Singh Bhindranwale by the Indian army, following a battle between the two sides at the Golden Temple at Amritsar in 1984 during which many lives were lost. This sparked further violence throughout the 1980s and 1990s, see: — — 'Operation Blue Star – Background' (*Sikh History*) <www.sikh-history.com/sikhhist/events/attack841.html> accessed on 26 August 2013; — — 'Jarnail Singh Bhindranwale' (*Wikipedia*) <http://en.wikipedia.org/wiki/Jarnail_Singh_Bhindranwale> accessed on 26 August 2013. This violence included the assassination of Indira Gandhi, the then Prime Minister of India, by two of her Sikh bodyguards in the 1980s, see — — 'Origins of Sikhism' (*BBC*, 30 September 2009) <www.bbc.co.uk/religion/religions/sikhism/history/history_1.shtml> accessed on 26 August 2013. There is a huge volume of work in this area, which is beyond the scope of this chapter.

⁷³⁶ He was sentenced to death for the part he played in the assassination of the former Chief Minister of Punjab, Beant Singh. On the issue of martyrdom, see comments attached to — — 'Sikhs take Execution Protest to Canberra' (*Sikh Net* 29 March 2012) <www.sikhnet.com/news/sikhs-take-execution-protest-canberra> accessed on 26 August 2013.

exclusively male),⁷³⁷ have been stationed in Punjab.⁷³⁸ Whilst there have been prominent examples of female warriors and martyrs in Punjab, this is still viewed as a heavily male-dominated area. Women are seen as weak and in need of protection, whilst men are the ‘protectors’. This bolsters the preference for sons.

This can be contrasted with Kerala’s historical development. Kerala is a society that has accommodated much religious and social diversity. However, assimilation in Kerala has been a ‘peaceful process’.⁷³⁹ Most settlers arriving in Kerala came as ‘immigrants’ rather than ‘invaders’. Kelly notes that, ‘while Kerala has had its share of conflicts in Southern Indian history, they were relatively minor compared to the incessant violence of the Punjab’.⁷⁴⁰

John and others found that ‘marriage is socially compulsory’ amongst all sections of Indian society.⁷⁴¹ This is true of both modern-day Punjab and Kerala.⁷⁴² However, there are at least three fundamental differences between the states relating to marriage which have an impact upon the status of women and the related demand for sons rather than daughters: patrilocal residence; patrilineal inheritance; and dowry.

The first difference relates to post-marriage residence. In Punjab, patrilocal residence is the norm. In other words, when a daughter marries, she moves to live with her husband’s family,

⁷³⁷ Men currently constitute 97.56 per cent of the Indian army, see M Suman, ‘Women in the Armed Forces’ (*Indian Defence Review* 31 January 2012) <www.indiandefencereview.com/spotlight/Women-in-the-Armed-Forces.html> accessed on 26 August 2013.

⁷³⁸ — — ‘India puts Sikh Radical Rajoana’s Execution on Hold’, *BBC News* (28 March 2012) <<http://www.bbc.co.uk/news/world-asia-india-17532832>> accessed on 25 August 2013. There have already been arrests and reported violence as part of the protests, see — — ‘Bhai-balwant-singh-rajoana’ (*Sikhsiyasat*) <www.sikhsiyasat.net/tag/bhai-balwant-singh-rajoana/> accessed on 26 August 2013.

⁷³⁹ Kelly (n 650) 72.

⁷⁴⁰ *ibid.*

⁷⁴¹ John (n 599) 72.

⁷⁴² ‘Remaining single for either sex was seen as very undesirable. In India, marriage is considered almost compulsory for men and women (except for those who have renounced the world) as a Hindu *Samskara* (life cycle event) and as a marker of social adulthood (e.g. unmarried men and women are usually referred to as “boy” and “girl”). Unmarried persons, especially women, are typically viewed with suspicion’, in Sudha, ‘Is Son Preference Emerging among the Nayars of Kerala’ (n 628) 282.

often many miles away from her natal home.⁷⁴³ Once married, the woman's links with her natal family are slight.⁷⁴⁴ It is very rare for the husband to move to live with the wife's family. This has a huge impact on the way in which daughters are viewed in Punjab. They are seen as, ultimately, belonging to someone else.⁷⁴⁵ The daughter's capacity to work both inside and outside the home, to reproduce and to provide other forms of support are fully realised after years of investment by the natal family, on the daughter reaching adulthood. At marriageable age, she is given away to another family, who receive the benefits of the natal family's years of investment. The natal family are left with very little. In purely economic terms, the natal family makes a loss.⁷⁴⁶

A longer-term implication of this is that, post-marriage, it is extremely difficult for a woman to provide any support, either financial or emotional, to her natal family.⁷⁴⁷ A 2000 study conducted in the Punjab region of Pakistan, found that when asked about the reasons for son preference, participants most commonly cited that sons 'carry on the family name, earn money and support their parents in old age'.⁷⁴⁸ This places sons in a position of being, not only desirable but, necessary.⁷⁴⁹

⁷⁴³ On studying this issue, Miller found that, generally, marriage distances are much greater in the north than the south. Further, she found that chances of a bride seeing her family in her natal village once married were much less in the north, see Miller, *The Endangered Sex* (n 649) 162-3.

⁷⁴⁴ Das Gupta, 'Selective Discrimination against Female Children' (n 674) 96. Although they will sometimes return to their natal home for the purposes of festivals, weddings and funerals, see John (n 599) 82.

⁷⁴⁵ The investment required in raising a daughter is, therefore, often termed as 'watering the neighbour's garden', as reflected in the title of Isabelle Attane and Christophe Z Guilmoto's, 'Watering the Neighbour's Garden' (n 435).

⁷⁴⁶ Leaf encapsulates the position of daughters perfectly when he states that, 'A woman is born in the house of her father. She shows respect, not by learning to work the land, but by practicing the talk and manners that will lead to her finding a secure marriage. The parents raise their girl that she may leave them, which gives the relationship between parent and daughter a color quite different from that between parent and son', in Murray J Leaf, *Information and Behaviour in a Sikh Village* (University of California Press 1972), 188. See also, Wyon and Gordon, who found that very similar ideas were expressed during direct interviews with women in Punjab's district of Ludhiana, see Wyon (n 734) 82-84.

⁷⁴⁷ Das Gupta, 'Selective Discrimination against Female Children' (n 649) 96.

⁷⁴⁸ Winkvist, 'God Should Give Daughters to Rich Families Only' (n 721) 77.

⁷⁴⁹ Croll discusses the concept of support for old age parents by children in this context as the 'intergenerational contract'. She explains how in countries such as India, where there is little in the way of social security, children are their parents' support in old age. Producing and raising children in many instances, she notes, is primarily done in order to secure support in old age. The cost of raising children is increasing due to the growing

Further, Punjabi traditions have built the role of sons into the core of family functioning. Brothers play an indispensable role in arranging marriages for their sisters. They are also necessary for the 'protection' of their sisters both before and after marriage. Brothers assume responsibilities of providing gifts and carrying out traditions in relation to their married sisters. It is not generally seen as being appropriate for women to take on such responsibilities even in relation to their own selves, let alone for others. This takes on even greater significance after the death of their father.⁷⁵⁰

Much of this is in direct contrast to significant proportions of Kerala's population. Historically, the Nayers of Kerala⁷⁵¹ exercised matrilineal residence and matrilineal inheritance.⁷⁵² Girls grew up in the homes of their mothers and grandmothers, surrounded by their maternal family. Often their fathers lived elsewhere with their own mothers. Even after marriage, women would remain in their natal home. In such a setting daughters received comfort, support and security from their maternal family.⁷⁵³ They were free to end inadequate marital unions and commence others. Women would generally continue their maternal

expenditure demanded by educational, medical and marital needs. Parents, therefore, want to produce fewer children. She notes that as raising children becomes more onerous, the sense of indebtedness that children feel towards their parents intensifies. Croll argues that these latter two elements are linked in that parents wish to have fewer children, but those that they do have need to maintain the same support and this is connected to the increased indebtedness felt by children to their parents. She argues that parents are resolving this by attempting to ensure that only boys are born, as it is sons who provide such support, see Croll (n 649) 112. This concept has been discussed specifically in the context of Punjab by Leaf: 'A woman... is wholly dependent on her sons in later life, as her husband is, but the difference that the relation between son and mother is supposed to take precedence over all other concerns. She gave the son his early health and security, and is wholly reliant on him, having no property of her own and less claim on her husband's property than her sons have. Need imposes obligations, and this particular need, because of its connection with sacrifice for the sons, is doubly binding. The reported zealousness of mothers in pursuit of their sons' welfare reflects this exact point', see Leaf, *Information and Behaviour in a Sikh Village* (n 746) 189.

⁷⁵⁰ John (n 599) 66.

⁷⁵¹ A middle to upper caste making up over 40 per cent of Kerala's population, see Sudha, 'Is Son Preference Emerging among the Nayers of Kerala' (n 628) 269-270.

⁷⁵² Robin Jeffrey, *The Decline of Nayar Dominance: Society and Politics in Travancore, 1847-1908* (Holmes and Meier Publishers Inc 1976), 12 and 15.

⁷⁵³ Sudha, 'Is Son Preference Emerging among the Nayers of Kerala' (n 628) 270-71.

lineage, even after marriage, by retaining their maternal family name.⁷⁵⁴ Although the power was vested with the elders, both female and male, and individual autonomy may have therefore been relatively low, the status of women was still generally high and females were valued at all ages from birth onwards. Women were central to family life and decision-making. As Sudha and others have noted, there was 'no structural basis to view daughters as liabilities'.⁷⁵⁵ Matrilocal residence was therefore one of the factors leading to the high status traditionally attributed to women in Kerala.⁷⁵⁶

Kerala also historically displayed patrilineal and patrilocal family constitutions. However, these differ to those of Punjab in several ways. Firstly, on the whole, in Kerala, marriage within villages is acceptable. Therefore, residence is not wholly patrilocal. Secondly, marriage between cousins is largely permitted in Kerala, whereas there are strict rules against this in Punjab. This means that the bride retains closer links to her natal family post-marriage. She does not lose, nor is she lost to, her natal family in the same way as in Punjab.⁷⁵⁷

The second difference relates to inheritance. Traditionally, in Punjab, property passes down from father to son(s), as does the family name and lineage generally. It is much rarer for women to inherit property or to retain their family name post-marriage. On marriage, women are seen as joining the family and lineage of their husbands. Therefore, sons are the only 'true' continuation of lineage.⁷⁵⁸ Given the patrilocal nature of a woman's post-marriage residence, providing an inheritance to a daughter is seen as giving further resources away to

⁷⁵⁴ *ibid* 279.

⁷⁵⁵ *ibid* 270-71.

⁷⁵⁶ *ibid* 269-270.

⁷⁵⁷ Kelly (n 650) 76-77.

⁷⁵⁸ This is true of patrilineal societies generally, see Guilmoto, 'Characteristics of Sex-Ratio Imbalance in India' (n 435) 20.

another family.⁷⁵⁹ Simply put, this equates the need for an heir into the need for a son.

Admittedly, this overlooks several further elements. Firstly, as noted above caste and wealth plays a role here. Where a father has no land for sons to inherit, sons logically become less important for the purposes of inheritance. This is clearly demonstrated by studies that have found that, amongst landed classes and castes, sex ratio imbalances are more pronounced.⁷⁶⁰ This appears to apply much more to the landed classes of the north, including the Jats of the Punjab, than to the landed classes of the south, including Kerala.⁷⁶¹ This could be for a number of reasons, such as the fact that Punjab's rural population is over ten per cent larger than Kerala's and, therefore, there are more instances of land inheritance in Punjab.⁷⁶² However, perhaps the most significant reason put forward is that the systems of inheritance in the two states have historically been very different.

Before this latter reason is discussed further, two factors ought to be noted in this context. Firstly, the law does permit for women to inherit property in Punjab.⁷⁶³ However, this law has done little to grant and protect women's rights in practice for several reasons. Primarily, in practice, women are rarely allowed to inherit property due to cultural norms and social pressures.⁷⁶⁴ There is a huge risk of alienation for a woman 'who dares claim her share'.⁷⁶⁵ Some have even argued that a daughter demanding her share would 'stand a good chance of being murdered'.⁷⁶⁶ Certain families have responded to this law by ensuring that they have no

⁷⁵⁹ John (n 599) 72.

⁷⁶⁰ Miller, *The Endangered Sex* (n 649) 80.

⁷⁶¹ *ibid* 79.

⁷⁶² This concept is discussed generally by Miller in the context of the north-south divide, *ibid* 161.

⁷⁶³ As provided for by section 6 of the Hindu Succession Act 1956, (as amended by section 3 of the Hindu Succession (Amendment) Act 2005).

⁷⁶⁴ Sudha, 'Is Son Preference Emerging among the Nayars of Kerala' (n 628) 280.

⁷⁶⁵ John (n 599) 72.

⁷⁶⁶ Das Gupta, 'Selective Discrimination against Female Children' (n 674) 92.

daughters at all.⁷⁶⁷ Further, given that in the vast majority of circumstances property is inherited by sons, having too many sons can also become a problem in Punjab. Punjab is predominantly rural in nature and the valuable part of an inheritance is land. In most cases, land will be divided amongst the sons. If there are ‘too many’ sons, property will be divided into so many portions that the sons each inherit a much diminished share. This is clearly not desirable in a society where most families ‘live off’ their land.⁷⁶⁸ This has led in some families, especially amongst land-owning farmers, to a desire for just one child, that being a son.⁷⁶⁹

Das Gupta has argued that it is Punjab’s partilineal kinship system that provides the fundamental structure for bias against women.⁷⁷⁰ It deprives women of rights to property. In Punjab, ownership of property not only increases social status but, especially in rural areas, is a family’s ‘bread and butter’. It sustains them. Rights of ownership and decisions relating to that play a significant role in determining a person’s place in society.⁷⁷¹ By depriving women of the right to own property, they are disempowered both socially and practically. They are symbolically ‘less’ than men and they cannot, in practice, maintain themselves or their families as they have been deprived of the means by which to do so. They are viewed as weak and not suited to shouldering the responsibility of providing for themselves, let alone others. This creates, as a matter of necessity, dependence upon men. Fathers, as opposed to mothers, support children; husbands and their families support wives; and adult sons, as opposed to daughters, support elderly parents. Patrilocal residence provides one of the means through

⁷⁶⁷ John (n 599) 72.

⁷⁶⁸ This has been documented in Jeffery, *Don’t Marry Me to a Plowman* (n 722) 269. Although this concerned farmers in Uttar Pradesh as opposed to Punjab, the same principle applies to Punjab. The two states are very geographically close. Uttar Pradesh borders Punjab.

⁷⁶⁹ John (n 599) 52; Naresh C Saxena, ‘Women, Land and Agriculture in Rural India’ (2011) United Nations Entity for Gender Equality and the Empowerment of Women) 48
<http://www.unwomensouthasia.org/assets/UN_Women_Land_Agriculture_in_Rural_India.pdf> accessed on 26 August 2013.

⁷⁷⁰ Das Gupta, ‘Selective Discrimination against Female Children’ (n 674) 95.

⁷⁷¹ *ibid* 93.

which this is realised. The combination of patrilineal inheritance and patrilocal residence means, therefore, that a daughter can do very little for her natal family.⁷⁷² All of this bolsters the view of daughters as liabilities to be guarded and 'looked after', rather than as positive assets to the family, this latter perception being reserved for sons.

In direct contrast to this, the Nayers of Kerala traditionally practiced matrilineal inheritance. Not only can females own property as well as men,⁷⁷³ property traditionally passed down the female line.⁷⁷⁴ Matriliney was abolished in the early 20th century under the momentum of the British and Nayar men.⁷⁷⁵ Nevertheless, the instances of females inheriting property are much larger in Kerala than Punjab.⁷⁷⁶ It has been argued that this element historically gave rise to positive attitudes towards daughters in Kerala.⁷⁷⁷

⁷⁷² This continues beyond the daughter's marriage, where it is a rarely broken custom that the daughter will only ever 'receive' from her natal family and give nothing of material value in return, see John (n 599) 74. Das Gupta uses the example of the custom 'widespread among many castes in North India, that a woman's father and brothers do not accept food or water in her husband's home. If they must accept hospitality, they pay generously for it before leaving, accounting for every glass of water', Das Gupta, 'Selective Discrimination against Female Children' (n 674) 92.

⁷⁷³ Sen, 'Many Faces of Gender Inequality' (n 595); Miller, *The Endangered Sex* (n 649) 161.

⁷⁷⁴ Sen, 'Missing Women' (n 595) 588; D Renjini, *Nayar Women Today: Disintegration of Matrilineal System and the Status of Nayar Women in Kerala* (Classical Publishing Company 2000), 5-6.

⁷⁷⁵ Jeffrey examines the circumstances surrounding this at length see Jeffrey (n 752) 148-156, 177-214, 243-252 and 253 onwards.

⁷⁷⁶ Although recently, there have been indications that this may be changing, see Praveena Kodoth, 'Producing Rationale for Dowry? Gender in the Negotiation of Exchange at Marriage in Kerala, South India' (2006) Asia Research Centre Working Paper 16 London School of Economics and Political Science, 18

<<http://eprints.lse.ac.uk/25193/>> accessed on 26 August 2013. These changes are discussed further below.

⁷⁷⁷ Mridul Eapen and Praveena Kodoth, 'Family Structure, Women's Education and Work: Re-Examining the High Status of Women in Kerala', in Swapana Mukhopadhyay and Ratna Sudarshan (eds), *Tracking Gender Equity under Economic Reforms: Continuity and Change in South Asia* (New Delhi India Kali for Women and IDRC 2003) 227-67. The contrary has also been argued. Renjini has argued that 'it is a myth that women enjoyed high status in the matrilineal system', see Renjini, *Nayar Women Today* (n 774) 98. However, the conclusions reached in this study are highly questionable for several reasons. Firstly, part of the information relied upon was elicited from case studies involving a mere 5, historically matrilineal, women. These women did not appear to be typical of matrilineal Nayars, in that none of them had followed polyandry, which is generally viewed as typical of matriliney in Kerala, (83). Secondly, the hypothesis was demonstrated through an analysis of two fictional novels about the lives and loves of two fictional Nayar women in Kerala. This is not a sound basis upon which conclusions can be based. Finally, a fundamental element of the conclusion is the assertion that, whilst residing in their maternal homes under the matrilineal system, young women were controlled by senior members of the maternal family, (often male), by virtue of their age, ('The hierarchical relationship was solely based on age ranking', 69). However, today, instead of living with their maternal family, young women live with their husbands and consequently 'There is nobody to control or to punish her', (76-77). This completely overlooks the fact that many women are controlled by their husbands. Further, these women are no longer controlled by virtue of their age, (which they grow out of), but their gender, which they cannot escape. Renjini acknowledges that husbands in Kerala are now 'responsible' for the upkeep of their wives, rather than older

In addition to patrilocal residence and inheritance, there is a third key feature that causes Punjabi daughters to be seen as a heavy burden on their families: dowry. Dowry is unlawful in India. It was prohibited by the Dowry Prohibition Act in 1961 and the Anti-Dowry Amendment Act 1984. However, the legislation only prohibits *money* paid, on-demand, to the groom's family. Clothes, jewellery and other items are not covered by the prohibition. Further, as noted by Jeffery and Jeffery, the bride's family are often too afraid of reporting dowry demands, as it would increase the risk of violence or other pressures upon the bride at her husband's home.⁷⁷⁸ It has been reported that in recent years dowry has actually increased.⁷⁷⁹

Dowry is provided for many reasons. Fundamentally, it appears to be a means through which to secure a 'good' husband for a daughter. Further, there are numerous reports of families wanting to pay as large a dowry as possible in order to ensure the well-being, happiness and safety of their daughters.⁷⁸⁰ It must be remembered that once a daughter is married into another family, she is often in a very vulnerable position. Her fate is in the hands of her

female and male maternal relatives being responsible for the upkeep of the younger family members. It is asserted that this means that women have now achieved equality with men, which they did not previously possess. It is arguable that this is misguided. The fact that men have been granted 'responsibility' over their wives by law seems to suggest a disempowerment of women, as they are no longer seen as capable of surviving without a husband. They are no longer supported by other women and male maternal family members, but solely by men whom they marry. Renjini's own findings support this latter argument, as the study found that whilst 54.55 per cent of matrilineal women owned property in their sole name, in the new 'patrilineal' system, only 26.92 per cent of women own property in this capacity. It is acknowledged by Renjini that, 'Previously the husband had no power to handle or keep his wife's ancestral share... In the new system husbands have the power even to hold partners' share and enjoy the earning from it as they like', (58).

⁷⁷⁸ Jeffery, *Don't Marry Me to a Plowman* (n 722) 81.

⁷⁷⁹ Guilmoto, 'The Geography of Deteriorating Child Sex Ratio' (n 702) 118. Further, Jeffery and Jeffery reported that they found that dowry had increased in their study of Uttar Pradesh, (a state which neighbours Punjab). They found that this was predominantly due to dowry demands by the groom's family. Even where the groom's family did not demand that certain items should form part of the dowry, the bride's family would often feel pressured to give as much as they possibly could in order to secure the bride's safety in her new home, see Jeffery, *Don't Marry Me to a Plowman* (n 722) 69.

⁷⁸⁰ Miller, *The Endangered Sex* (n 649) 147-48.

husband's family.⁷⁸¹ A large dowry may earn the bride greater respect and may provide peace of mind for her natal family. The bride does not retain control over the sums and items provided. They are paid to the groom's family and his family take control of them.⁷⁸²

Dowry is associated much more with the north of the country rather than the south. It is widespread in Punjab. In addition to the dowry, the other costs of the wedding are also borne by the bride's family in the north.⁷⁸³ These expenses cannot be circumvented because, as discussed above, marriage is socially required in India and in the north, a dowry must almost always be provided.⁷⁸⁴ In the south, dowries have traditionally been less common. Where they have been given, they have been much less lavish than in the north. The predominant custom in the south has historically been the payment of 'bridewealth': namely, giving by the groom's family to the bride.⁷⁸⁵ Whereas dowry is paid to the groom's family, bridewealth is traditionally paid to the bride herself, to provide her with financial security, and it is supposed to be kept under her own control.⁷⁸⁶ As Miller has noted, in the south 'the very wealthiest members of the community often openly and proudly give bridewealth'. This is in direct contrast to the north, which displays huge dowries amongst the wealthiest and further down the social scale.⁷⁸⁷ Further, even where dowry is paid in the south, there is a much greater degree of reciprocity between the two families, with both sides bearing the burden of various wedding expenses.⁷⁸⁸

⁷⁸¹ This point was emphasised by many of the participants in the 2000 study by Winkvist and Akhtar. Dowry crimes, consisting of violence and sometimes murder, against the bride by her husband's family are known to have occurred due to the provision of an inadequate dowry, see Winkvist, 'God Should Give Daughters to Rich Families Only' (n 721) 78.

⁷⁸² Miller, *The Endangered Sex* (n 649) 147-48.

⁷⁸³ John (n 599) 73.

⁷⁸⁴ *ibid.*

⁷⁸⁵ This concept is discussed extensively in Miller, *The Endangered Sex* (n 649) 146 onwards.

⁷⁸⁶ Sudha, 'Is Son Preference Emerging among the Nayars of Kerala' (n 628) 280.

⁷⁸⁷ Miller, *The Endangered Sex* (n 649) 146.

⁷⁸⁸ *ibid* 146-47.

The payment of dowry is a significant factor in son preference. Miller argues that dowry is a 'prime motivation' for families seeking to avoid having daughters as it is a huge drain on family resources.⁷⁸⁹ She found clear correlations between high sex ratios amongst propertied classes in the north. This, she concluded, indicates that there is higher female mortality where costs of marriage are higher.⁷⁹⁰ The truth is, sex ratio is affected by many variables and, therefore, it is very difficult to separate potential causes in order to attribute them with weight. Nevertheless, as a matter of fact, the dowry system is something which makes having daughters additionally burdensome. In certain instances bride's families have been forced to sell parts of their land or to take out loans in order to meet dowry demands. This strengthens the image of daughters as a drain on resources. As one woman in the Punjab region of Pakistan stressed, 'if God wants to give daughters He should give them to rich people only'.⁷⁹¹ This also strengthens the perception of sons as bringers of wealth. After all, the marriage of a son not only costs a Punjabi family very little, it actually brings wealth with it in the form of a dowry and a daughter-in-law.⁷⁹²

(ii) Recent Developments

Traditionally, then, Kerala appeared to be free of son preference. However, as customs have changed and have begun to bear greater similarity to Punjabi traditions and social norms, son preference appears to be growing. A recent study by Sudha and others bears this out. They considered social changes in relation to the above three marriage-related elements and the corresponding emergence of son preference.

⁷⁸⁹ *ibid* 134.

⁷⁹⁰ *ibid* 157-59. However, she could find less of a correlation in respect of other groups. For example, amongst northern un-propertied classes, sex ratios are moderately high even though the costs of marriage are relatively low. Further, in some instances southern propertied groups would incur high costs of marriage but their sex ratios were never found to be high. However, in respect of southern propertied groups a correlation was found as marriage ratios and juvenile sex ratios were both low or 'low-medium', (159).

⁷⁹¹ Winkvist, 'God Should Give Daughters to Rich Families Only' (n 721) 77.

⁷⁹² Miller, *The Endangered Sex* (n 649) 164.

Firstly, recent developments in relation to dowry will be considered. Dowry is increasing in the north, making daughters more costly,⁷⁹³ but this phenomenon is also occurring in the south.⁷⁹⁴ Of late, the payment of dowry in Kerala has been documented with increasing frequency. A 2006 paper by Kodoth looked at the increasing use made of dowry in Kerala.⁷⁹⁵ She carried out fieldwork in 2001 and 2005 in northern Kerala. She found that, whilst those interviewed often denied that dowries were paid in their locality,⁷⁹⁶ there had nevertheless been ‘open negotiation and payment of dowry’ in Kerala. This was occurring in respect of women who displayed attributes that made securing a husband difficult, namely being poor, of low social stature and being considered unattractive.⁷⁹⁷ In 2007, Sudha and others found, again, that whilst participants shunned any personal involvement in dowry payments, they did note that they gave their daughters ‘voluntary’ gifts on marriage. These gifts often comprised of large amounts of gold, representing substantial expenditure for the bride’s family.⁷⁹⁸

In addition to growth in the frequency of dowry payments, the costs of marriage itself have spiralled in Kerala. The once, simple, ceremonies of old have given way to an expectation of more generous expenditure, which tends to fall on the bride’s family.⁷⁹⁹ This appears to have led to, or perhaps be the symptom of, the growth of son preference in Kerala.⁸⁰⁰

⁷⁹³ Jeffery, *Labour Pains and Labour Power* (n 722) 27.

⁷⁹⁴ Guilmoto, ‘Characteristics of Sex-Ratio Imbalance in India’ (n 435) 19.

⁷⁹⁵ Kodoth, ‘Producing Rationale for Dowry’ (n 776).

⁷⁹⁶ *ibid* 9.

⁷⁹⁷ *ibid* 1.

⁷⁹⁸ They report that an elderly woman remarked that, “dowry is now very common. People may not ask directly but they say the groom’s brother got so much gold and cash etc. My neighbour got fifty sovereigns of gold [about \$ 18,000] and Rs. 50,000 in cash [about \$ 1100] [...] we should give some gold to our daughter according to our financial status [...] Inheritance share is separate from dowry”, in Sudha, ‘Is Son Preference Emerging among the Nayars of Kerala’ (n 628) 281.

⁷⁹⁹ This increases the cost of raising daughters, as argued by Sudha and others, *ibid* 279 and 281.

⁸⁰⁰ Sudha and others found that the upper tiers of society were virtually free of son preference. However, further down the socio-economic scale, they found indications that expressions of son preference had risen, *ibid* 288. They found that 74 per cent of those interviewed saw raising a daughter as more difficult than raising a son. This was due to the costs of marriage and the belief that sons could contribute more than daughters to the natal household. Whilst those interviewed appeared to prefer ‘balanced families’ consisting of a son and a daughter, on further questioning it appeared that, due to rising costs of raising daughters and daughters leaving their natal home on marriage, son only families were preferable, *ibid* 285.

This leads to the second and third elements: the shift away from matrilocal residence in Kerala, coupled with a move away from matriliney. Since the abolition of matriliney in the early 20th century, the Nayar social structure has moved to a situation where the ambit of women has become increasingly seen as being ‘home-making’, even where they work outside of the home and are educated. Parallel to this shifting role of women is the growing perception of men as ‘providers’, whose role it is to establish the ‘family socioeconomic status and identity’.⁸⁰¹ There has also been a substantial move towards giving children their father’s surname, as opposed to the traditional Nayar tradition of women continuing their lineage by carrying their mother’s name.⁸⁰² Education is still granted great importance, but it fails to provide gender equality on its own.⁸⁰³

In their study, Sudha and others found the following patterns of residence. Out of 179 households studied: 79 per cent were constituted of a married couple with unmarried children or paternal aunts and uncles; around two per cent contained paternal grandparents; and a mere one per cent contained maternal grandparents. There were seven instances of brothers living together post-marriage but none of married sisters living together.⁸⁰⁴ This is very significant as it raises the question, previously answered by matrilocal residence, of who will take care of elderly parents. Women no longer have the security of residing with their mothers, sisters, and thereafter daughters and other relatives throughout their lives. It has been found that the preference in Kerala now appears to be in favour of living with sons, once it is no longer possible to live independently, rather than daughters.⁸⁰⁵

⁸⁰¹ *ibid* 285; Renjini, *Nayar Women Today* (n 774) 37-43, who found that men have increasingly been granted and have assumed the role of being financially responsible for the ‘maintenance’ of their wives.

⁸⁰² *ibid* Sudha 279.

⁸⁰³ *ibid* 285.

⁸⁰⁴ *ibid* 278.

⁸⁰⁵ Particularly amongst the Nayar caste, *ibid* 279.

Legally, inheritance may now be afforded to sons and daughters equally. Daughters are, therefore, not only costing their parents large sums by way of marriage expenditure, and occasionally dowry, but they may still also claim their inheritance. All of this increases the perceived and actual costs to a family of raising a daughter.⁸⁰⁶ This demonstrates the shift of two historical social norms in Kerala that had originally made it a polar opposite of Punjab. Whilst it still does not display the heavily patrilineal and patrilocal social norms of Punjab, Kerala has moved nearer to that than its historic stance and has also begun to display son preference. This is a very significant shift when viewed against the historical attitude towards women in Kerala.⁸⁰⁷

However, we must be cautious, because as Sudha and others concluded, it is very difficult to attribute the blame for growth in son preference to any one element. It is likely that changes in the economy, kinship and expected 'roles' for men and women have, in combination, instigated the growth of son preference.⁸⁰⁸ Further, it is difficult to single out cause from consequence.⁸⁰⁹ The impact of this on sex ratios is yet to be seen. Historically, and to date, there has been no significant problem with sex ratios in Kerala.

Meanwhile, in Punjab, there has been growing unrest relating to the increase in unemployment, drug abuse, poor school performance and general laziness amongst young

⁸⁰⁶ *ibid* 280.

⁸⁰⁷ *ibid* 288.

⁸⁰⁸ Other factors which may have fuelled the growth of son preference include: high levels of unemployment for women and men; caste and gender based disparities in accessing resources linked to poverty; and low participation by women in politics, *ibid* 269-270. Other than arguably the last of these, the UK does not exhibit these characteristics.

⁸⁰⁹ *ibid* 289. In addition to the factors discussed above, Sudha and others raise the possibility that a combination of high education and advanced economic opportunities may 'raise female worth' and thus combat son preference. They predicate this upon the fact that son preference was largely absent amongst more affluent Nayars, who would display these two characteristics, *ibid* 291. However, as mentioned above, this is a disputed area.

men. In light of this, concerns have been raised that sons may not fulfil the traditional role afforded to them and support their parents in old age.⁸¹⁰ Many have spoken about ‘worthless’ sons in this regard.⁸¹¹ This should arguably lead to sons becoming less desirable. There is some evidence to suggest that this has helped to combat son preference. Retherford and Roy found that as early as the 1990s son preference was starting to decrease.⁸¹² Das Gupta and others have compared India to South Korea, where the sex ratio had become hugely imbalanced but has, thereafter, evened out. They hypothesised that sex ratios in highly imbalanced states such as Punjab will normalise in a similar manner.⁸¹³ The 2011 Census statistics lend some support for this, as the sex ratio for 0-6s in Punjab has remained virtually static since the last Census. They attribute this to the combating of son preference largely through the policy initiatives and pro-daughter media campaigns discussed above, as well as other factors.⁸¹⁴

However, others have found that attitudes towards the ‘burdens’ of daughters appear to have persisted, as has the preference for sons.⁸¹⁵ Whilst there exists the possibility that sons will not support their parents, the proposition that a daughter may provide such support is still inconceivable to the masses.⁸¹⁶ There appears to be something in addition to the above factors at play. John and others explain this in terms of ‘daughter aversion’.⁸¹⁷ They propose that a dis-preference for daughters has ‘become the common sense and has taken on a life of its

⁸¹⁰ John (n 599) 56-57, 69 and 70.

⁸¹¹ John (n 599) 56-57.

⁸¹² Retherford (n 635) 73.

⁸¹³ Monica Das Gupta, Woojin Chung and Li Shuzhuo, ‘Is there an Incipient Turnaround in Asia’s “Missing Girls” Phenomenon?’, (2009) The World Bank Development Research Group Policy Research Working Paper 4846, 6 <<https://openknowledge.worldbank.org/handle/10986/4040>> accessed on 26 August 2013.

⁸¹⁴ *ibid* 8. It should be noted that even though son preference was, according to Retherford and Roy, decreasing in the 1990s, sex ratios at birth were still rising. Retherford and Roy explained this by theorising that whilst son preference was generally decreasing, sex-determinative and selective technologies were becoming increasingly accessible, Retherford (n 662). Das Gupta and others argue that this mirrors the situation in South Korea shortly before its sex ratios normalised.

⁸¹⁵ John (n 599) 56-57.

⁸¹⁶ *ibid* 81. Nevertheless, John and others do suggest that these factors may be leading to an increased ‘friendliness’ towards daughters, which provides hope for their better treatment in future, (87).

⁸¹⁷ *ibid* 69-70.

own, quite apart from son-preference'.⁸¹⁸ This makes sense when we consider the history of, and factors leading to, son preference. Over the centuries, son preference appears to have built up a momentum of its own in Punjab. It appears to have become so ingrained within each individual that even with recent changes in social and cultural norms, to an extent, it persists independently of logical outcomes. Winkvist and Akhtar make the point that already 'at birth, many of these Punjabi women have themselves been greeted with the same disappointment that they now described feeling when giving birth to girls. Growing up, they have faced the strong son preference of their society'.⁸¹⁹ This provides an insight into why son preference is so ingrained. It is much more than a basic calculation based on utility and status. It is, as John and others have labelled it, an 'emotion'.⁸²⁰ Whilst it is built upon such elements, it becomes a way of life that takes root within subconscious attitudes, which are then very difficult to combat and erase. Overcoming son preference appears to be a painstakingly slow process.

(e) The UK Context

There are several questions which the information set out above can assist in answering. These include: firstly, whether the legalisation of sex-selection for non-medical reasons using PGD would cause a sex ratio imbalance amongst the UK population; secondly, and more importantly, whether it would cause an imbalance amongst those of Punjabi ethnicity in the UK; thirdly, whether a potential sex ratio imbalance amongst UK Punjabis provides a legitimate justification for the prohibition; and finally, whether the UK would be 'setting a bad example' for India by permitting the procedure. These questions will be discussed below.

⁸¹⁸ *ibid.*

⁸¹⁹ Winkvist, 'God Should Give Daughters to Rich Families Only' (n 721) 79.

⁸²⁰ John (n 599) 69-70.

(i) Has Son Preference been Transported to the UK through Immigration?

The first issue is whether, and to what extent, this son preference may have been transported to the UK via immigration. This section will focus on immigration from Punjab because, as the last two sections have demonstrated, there is powerful evidence to suggest that son preference is enthusiastically practiced in that state. Immigration from Punjab to the UK began, in the main, in the 1950s and has continued since that time.⁸²¹

Research has shown that there is no significant preference for sons amongst the general UK population.⁸²² The HFEA's own literature review undertaken as part of its 2002-2003 consultation process reveals this.⁸²³ It cites a 1993 study of 2300 pregnant women carried out by Statham and others in England. The study found no preference for a child of either sex amongst 58 per cent of participants. The remaining participants were divided equally in terms of wanting a girl or a boy.⁸²⁴

However, there is evidence to suggest that son preference is present amongst certain ethnic minority groups in the UK. Those originating from Punjab are amongst those exhibiting this preference. Four sets of research will be considered in this regard. The first is the

⁸²¹ See, for example — — 'Sikhism in Britain' (*BBC*, 30 September 2009)

<www.bbc.co.uk/religion/religions/sikhism/history/britishsikhism.shtml> accessed on 26 August 2013.

Although there had been isolated incidents of individuals and families immigrating before this time, large-scale immigration began in the 1950s. It has been reported that Punjabis 'mainly' came to the UK in the 1960s, see Burholt and others' study of Punjabi immigration to Birmingham: Vanessa Burholt, Clare Wenger and Zahida Shah, *Families and Migration: Older People from South Asia: Older Punjabi Immigrants in Birmingham* (2002) United Kingdom Regional Report number 2 Department for International Development Project, 7

<http://r4d.dfid.gov.uk/PDF/Outputs/Mis_SPC/R7655PunjabiUKreport.pdf> accessed on 15 December 2012.

⁸²² See, for example, Dahl, 'Preconception Sex Selection for Non-Medical Reasons: a Representative Survey from the UK' (n 436).

⁸²³ *Options for Regulation* (n 75) 10-11, para 26; Catherine Waldby, 'Literature Review and Annotated Bibliography: Social and Ethical Aspects of Sex Selection' (Prepared for the Human Fertilisation and Embryology Authority's Review 2002), 3 <http://www.hfea.gov.uk/docs/Appendix_D_-_Social_and_Ethical_Literature_Review.pdf> accessed on 26 August 2013.

⁸²⁴ Helen Statham, Josephine Green, Claire Snowdon and Merry France-Dawson, 'Choice of Baby's Sex' (1993) 341 *Lancet* 564 <[http://www.thelancet.com/journals/lancet/article/PII0140-6736\(93\)90331-A/fulltext](http://www.thelancet.com/journals/lancet/article/PII0140-6736(93)90331-A/fulltext)> accessed on 26 August 2013.

Counterpoint research commissioned by the HFEA as part of the 2002-2003 consultation. It found that whilst the views of ‘Asians’ generally accorded with those of the other groups, they were still ‘operating in a different cultural context’ in that most understood that, historically, there was a preference for boys amongst the Asian community. The reasons given for this preference accorded with those set out above. Amongst more traditional families, it appeared that these justifications still operated and one or two women had personally felt pressure to continue having children until they had a son. Most denied any preference for boys within their own families and felt that such preferences were discriminatory as ‘girls were no more of a burden on their parents than boys’.⁸²⁵ Having said that, many acknowledged that some women may suffer ‘mental torture’ from their in-laws where they failed to produce a boy, and certain participants expressed the view that where this could be prevented by sex-selection, ‘perhaps’ it should be permitted.⁸²⁶ Whilst the Asian groups showed a greater respect for authority generally, they also expressed the view that if someone wanted a child of a particular sex badly enough, ‘then there will always be a way to find someone who can provide what they want’.⁸²⁷

Secondly, son preference was also uncovered in the HFEA’s literature review. The HFEA noted that amongst ethnic minority groups that originated outside of Europe, there was a ‘marked’ preference for sons and they constituted a ‘disproportionately high’ percentage of those seeking sex-selection.⁸²⁸ This was based on a 1995 study by Liu and Rose, that found that of 809 couples interviewed at a London sex-selection clinic, 468 were of Indian ethnicity.

⁸²⁵ Counter Point, *Sex Selection – Policy and Regulatory Review* (n 113) 37.

⁸²⁶ *ibid* 38. Although, it should be noted that certain Muslim participants found it difficult to accept that sex-selection should be permitted for non-medical reasons due to children being a ‘gift from Allah’ *ibid*.

⁸²⁷ They presented as less demanding in terms of regulation and control of reproductive technologies in this area and appeared to be quite ambivalent towards regulators, *ibid* 37.

⁸²⁸ Liu, ‘Social Aspects of >800 Couples’ (n 278) 970. Also see: *Options for Regulation* (n 75) 10-11, para 26; Waldby, ‘Literature Review’ (n 823) 4.

Of these 468 couples, 450 were seeking a son.⁸²⁹ However, this was qualified by the fact that this preference had been displayed by couples who already had two or more daughters and were aged, on average, 33.8 years.⁸³⁰ Further, it was noted that Liu and Rose's study found that despite couples of Indian ethnicity constituting 57.8 per cent of those seen at the clinic during the study, less than 5 per cent of enquiries to the clinic had been from childless couples. Their findings suggested that, even if the policy on sex-selection were more lenient, it would be unlikely to lead to couples without children seeking sex-selection.⁸³¹ At the point at which Indian couples attended the clinic wanting to produce a son, they had an average of 2.75 girls in their family.⁸³² That lends support for the argument that sex-selection, even amongst Asian couples, would be likely to be used in order to 'balance' families, rather than to cause an imbalance of sex ratios.

The HFEA's research did not reveal any studies that explicitly explored whether traditional son preferences were retained after immigration to the UK from these countries,⁸³³ nor did it reveal any evidence that permitting the procedure would lead to an imbalance of the UK sex ratio.⁸³⁴ The third piece of research to be considered presents some evidence relating to this issue. In 2004, Culley and others carried out a study of infertility services in relation to ethnic minorities, including the Punjabi Sikh community, in the UK.⁸³⁵ The study explored South Asian views on infertility and the importance of children.⁸³⁶

⁸²⁹ *ibid* Liu 969. The method of sex-selection used at the clinic was sperm sorting, (968).

⁸³⁰ The mean number of daughters already in a family seeking a boy was 2.75. The average age of couples refers to the average age of the wife, *ibid*.

⁸³¹ *ibid* 970. This is acknowledged in Waldby, 'Literature Review' (n 823) 3.

⁸³² *ibid* Waldby.

⁸³³ *ibid* 5.

⁸³⁴ *Options for Regulation* (n 75) 11, para 26.

⁸³⁵ The other communities were: Gujarati Hindu; Bangladeshi Muslim; and Pakistani Muslim, see Culley, 'A Study of the Provision of Infertility Services' (n 332) i.

⁸³⁶ *ibid* 4.

The study confirmed that the Punjabi community is ‘strongly pronatalist’.⁸³⁷ Marriage amongst the studied communities was ‘almost universal’ and children were highly desired.⁸³⁸ The study found a clear and widely held preference for sons present in all communities participating. The reasons provided for son preference were similar to those provided in Punjab. In particular, participants cited the tradition of daughters leaving their natal family and becoming part of their husband’s family on marriage, sometimes with a dowry. Further, participants noted that sons ‘remain economically and socially part of the family’ and maintain obligations towards their parents and family.⁸³⁹ Some participants suggested that being without a male child could be just as ‘problematic’ as being childless.⁸⁴⁰ However, this related to a minority of participants.⁸⁴¹ Only a fifth of participants noted the existence of family pressure to produce a son. Although some participants felt that it would bolster their social and familial status, most stated that they would personally be content with either sex.⁸⁴² This was particularly so in relation to younger participants, amongst whom Culley and others found suggestions of resistance to traditional attitudes.⁸⁴³ They found that ‘many young men and women... are more likely to take pleasure in the birth of a daughter, than their parents’ generation’.⁸⁴⁴ Further, Culley and others suggest that the more educated and less traditional sections of the community exhibited less pressure from families in relation to reproductive matters. They also agreed with the contention that professional Asian women were under less family pressure to continue having children until a son was born.⁸⁴⁵

⁸³⁷ As well as the South Asian community in general, *ibid.*

⁸³⁸ *ibid.* 5.

⁸³⁹ *ibid.* 6.

⁸⁴⁰ *ibid.*

⁸⁴¹ Described as a ‘significant minority’, *ibid.* 7.

⁸⁴² *ibid.* 6.

⁸⁴³ *ibid.* 7.

⁸⁴⁴ These comments were made about the research project in a later publication, see Lorraine Culley and Nicky Hudson, ‘Commonalities, Differences and Possibilities: Culture and Infertility in British South Asian Communities’ in Lorraine Culley, Nicky Hudson and Floor Van Rooij (eds), *Marginalized Reproduction, Ethnicity, Infertility and Reproductive Technologies* (Earthscan 2009) 103.

⁸⁴⁵ Culley, ‘A Study of the Provision of Infertility Services’ (n 332) 7. These findings are consistent with the 2000 study of Katbamna which found that son preference exists amongst South Asians generally in the UK, see Savita Katbamna, *‘Race’ and Childbirth* (Open University Press 2000). This study did not consider the Punjabi

The fourth set of research is that of Bhachu. She completed a series of studies on the migration of Punjabi Sikh women.⁸⁴⁶ This chapter has shown that the perception of daughters as an economic drain on family resources lies at the heart of son preference. Bhachu found that Punjabi women in the UK have increasingly departed from the role of the family-dependent 'hole in the bucket'.⁸⁴⁷ She found that in the UK, south-Asian women, and particularly Punjabi women, generally 'actively engage' with the economy. Some Asian women display 'higher economic activity rates' than women of white-British ethnicity.⁸⁴⁸ In terms of employment and work outside of the home, she presented findings that in professional and managerial sectors, the discrepancy between the employment and activity of Asian and white-British women are generally 'slight'. In fact the differences are much less

community, it studied Gujarati Hindus and Bangladeshi Muslims. However, it nevertheless has some relevance to this chapter as it demonstrates the fact that son preference is retained after immigration to the UK. The study found clear evidence of mothers-in-law exerting pressure upon daughters-in-law to have sons, (21-22). There was also stated to be a stigma attached to being 'son-less' for some women, (22). However, some daughters-in-law appeared to be resistant to such pressure, (21-22). The women studied appear to be first generation immigrants, the most 'assimilated' amongst them having lived in Britain since early childhood, (4). It is likely that the nature and extent of son preference is different amongst second and third generations in the UK, this will be discussed further below. Further, Almond and others carried out a study in Canada that considered the extent to which son preference was retained amongst first and second generation Asian immigrants, see Douglas Almond, Lena Edlund and Kevin Milligan, *Son Preference and the Persistence of Culture: Evidence from Asian Immigrants to Canada*, (Working Paper 15391, Massachusetts National Bureau of Economic Research October 2009) <<http://cid.bcrp.gob.pe/biblio/Papers/NBER/2009/Octubre/w15391.pdf>> accessed on 26 August 2013. Canada shares many of the same social and economic trends of the UK in that, due to welfare provisions, sons are less likely to be needed for old-age support and the financial opportunities for girls and boys are comparable, (5). In line with the argument presented in this section, they found indications of 'a much stronger preference for boys among first generation immigrant families' (22). However, they could not discount that second generation immigrants were using sex-selective abortion to achieve a 'son' rather than another daughter where several daughters already existed in the family, (23).

⁸⁴⁶ For example see: Parminder Bhachu, *Twice Migrants: East African Sikh Settlers in Britain* (Tavistock 1985); 'Home and Work: Sikh Women in Britain' in *Enterprising Women: Ethnicity Economy and Gender Relations* (Routledge 1988); 'Ethnicity Constructed and Reconstructed: the Role of Sikh Women in Cultural Elaboration and Educational Process in Britain' (1989) 3 *Gender and Education* 147.

⁸⁴⁷ She also noted that we must be cautious to treat separately 'direct migrants', who migrate directly from Punjab to the UK, from 'twice, thrice and "quadrice" migrants' who have moved from the Punjab, to Africa and thereafter to the UK and/or the US and perhaps elsewhere, see Parminder Bhachu, 'Multiple Migrants and Multiple Diasporas' in Pritam Singh and Shinder Singh Thandi (eds), *Punjabi Identity in a Global Context* (Oxford University Press 1999), 344-5. She argues that the former may be less 'culturally and ethnically skilled' in that they often display 'home orientation' and a 'myth of return' to India. In the initial stages of their migration, the move is more likely to be driven by a temporary 'economically goal-orientated' plan. Their links, in particular their financial links, with family in India are more likely to remain strong. She contrasts this with the latter category, whom she theorises are more likely to see their new home as more permanent, (345). It could tentatively be implied from this that there is a greater likelihood of the former category retaining the sex preference originating from their life in Punjab.

⁸⁴⁸ *ibid* 346.

than those found in men.⁸⁴⁹

She considered the impact of this upon dowries amongst migrant Punjabi Sikh women. She concluded that by the 1970s onward, whilst dowries had continued, brides were generally asserting more control over the assets given, (as opposed to them becoming completely consumed within the husband's wider family). At the same time changes were occurring in respect of post-marriage residence. Couples were more readily seeking to reside independently of the husband's family immediately after marriage.⁸⁵⁰ Bhachu explained that the 'quite dramatic increase in the earning powers of the brides in Britain catalyzed this process, being contributors to house mortgage payments and sometimes initiators of house purchases. Also, since they helped make the *daaj* [dowry], they also expected to control it'.⁸⁵¹ Whilst the cost of dowry and marriage have escalated, especially since the 1980s amongst Punjabi Sikhs in Britain, where expensive items are bought, it is often by, or with the contribution of the bride, and will often be for her own personal use and remain within her own control.⁸⁵²

This arguably has far-reaching implications for son preference amongst those of Punjabi origin in the UK. As Punjabi women are becoming not only increasingly financially independent, but prosperous in their own right, the perception of them as financial drains is changing. Given that dowry, patrilocal residence and other financial considerations are so central to son preference in Punjab, it is arguable that their elimination, or at the very least

⁸⁴⁹ *ibid* 347.

⁸⁵⁰ *ibid* 350. This is also supported by a 2002 study carried out by Burholt and others, see: Burholt, *Families and Migration* (n 821). This study found that around 49 per cent of Punjabi people in the UK lived in 'multi-generational' households, (15-16). However, there was an implication that, 'the traditional intergenerational household has begun to shift towards a nuclear household...', (23). This was found over a decade ago. It is likely that matters have progressed since then. The pressure exerted by female in-laws is likely to have much less influence where the daughter-in-law is living under a separate roof. Case studies used by Katbamna demonstrate a greater degree of independence and less obligation towards in-laws when living separately, (114-123).

⁸⁵¹ Bhachu, 'Multiple Migrants' (n 847) 350.

⁸⁵² *ibid* 350-53.

diminution, amongst Punjabi families in the UK will instigate a decrease in son preference in the UK. This is because it removes the beliefs at the centre of it: that women are weak, dependent upon others and not responsible enough to support themselves or to make their own decisions. Admittedly, this has been and will continue to be a slow process. As discussed above, son preference is not just about economic justifications and logical deductions, it has become an 'emotion' of its own. Further, economic factors are not exclusive in affecting son preference. Other factors also need to be combated. Nevertheless, it appears that whilst son preference is present in the UK, it is much weaker in nature and extent than in Punjab.⁸⁵³

These four sets of research suggest that son preference in Punjab has been transferred to the UK via immigration and has, to an extent, remained. However, attitudes have clearly evolved in the UK. As a general trend, son preference appears to have become diluted as it has passed from the first generation, to the second, and more recently to the third adult generation in the UK.

(ii) Implications for the UK Sex Ratio

Two main objections to sex-selection were raised during the debates leading up to the 2008 Act, which are relevant to this chapter. Firstly, it was argued that sex-selection may lead to

⁸⁵³ It should be noted at this juncture that it would be difficult and misleading to assert that the discussion set out above applies to all people of Punjabi ethnicity in the UK. There will always be exceptions to the general rules. The general rules have been set out as follows: Punjabi-born women, (the older generations and those who have recently immigrated), are most likely to display strong son preference, whilst UK born women of Punjabi ethnicity are likely to display son preference in a weaker form. However, there are sub-groups within each of these two groups that may display son preference to varying degrees. In relation to Punjabi-born women, on one end of the spectrum, there will be women who have lived in the UK since the 1950s and towards the other end of the spectrum, there will be women who have very recently moved from Punjab. The extent to which they will display son preference, and the strength of this son preference, is likely to be affected by the degree to which they have integrated socially, culturally and economically into the general UK population. (This has been demonstrated by Puri and others' 2011 study on women who had immigrated from India to the US, see "'There is Such Thing as Too Many Daughters, but Not Too Many Sons': A Qualitative Study of Son Preference and Fetal Sex Selection among Indian Immigrants in the United States" (2011) 72 *Social Science and Medicine* 1169). It is also likely to depend upon the extent to which they have maintained links with friends and family in, and from, Punjab. It will also be affected by the personality traits, education and upbringing of each individual woman. The same factors apply to UK-born Punjabi ethnicity women. Nevertheless, certain trends have been established above which appear to apply generally, (although not absolutely).

sex ratios in the UK becoming skewed, as they have done in India, (and China). Secondly, it was argued that permitting sex-selection in the UK may set a bad example for countries such as India (and China), given their skewed sex ratios. Both of these objections lack merit. The problem of sex-selection manifests itself in hugely different ways in India when compared to the UK. Therefore, objections comparing the two countries were disproportionate and unproductive.

The former objection will be dealt with first. The first point to note is that the situation regarding sex-selection has always been much more acute in India than the UK. The methods employed in order to select sex are much wider ranging and extreme. They include infanticide, neglect and sex-selective abortion. There is no reliable evidence to suggest that these methods of sex-selection are used within the UK.⁸⁵⁴ The issue in the UK related to sex-selection via PGD. This is obviously carried out at a much earlier stage than any of the sex-selective methods adopted in India. Pre-conception methods have not been prohibited in India because these techniques do not appear to constitute anything near a significant instrument of the sex ratio imbalance. This raises an important distinction between the legislation in the two countries: the aims of the two Acts and the context of their enactment were very different. The Indian legislation was necessary in order to tackle a serious existing problem: that of sex ratio imbalance instrumented through widespread sex-selective abortion. The 2008 UK Act, on the other hand, was aimed at tackling future issues, in other words, its aim was prevention rather than cure. Demand for sex-selection was not particularly high in the UK, as is evidenced by the HFEA's research. The few instances of demand, such as the Masterton case, were highly publicised. Further, the Act only saw fit to deal with sex-selection via PGD. There was no need to address sex-selective abortion, as there was no real suggestion at that point of it

⁸⁵⁴ The use of sex-selective abortion in the UK will be discussed below. Even if it is found that sex-selective abortion is occurring within the UK, it is not necessarily unlawful within the meaning of the Abortion Act 1967.

occurring within the UK. Therefore, it is highly unlikely that permitting a procedure that is not even sufficiently used in India to justify a ban in that country would lead to the UK developing India's sex ratio problem.

The second point is that many objectors to sex-selection have cited the 'let's not become like India' objection without fully testing this proposition. By 'India', the objectors and the HFEA were not actually referring to the whole of India. They were referring predominantly to the north of India. They were clearly not referring to Kerala. However, they omitted to draw this distinction. Had they have done so they would have been forced to consider the issue in more detail, including the factors surrounding son preference as discussed in this chapter. Having done so, they would have been led to the conclusion that it is highly misleading to build an objection around a comparison of the two countries as they are vastly different in terms of social, economic and cultural norms.

The same statutory provisions on sex-selection apply throughout India. However, within the country, there are nevertheless areas in which the sex ratio is highly imbalanced. Punjab has been shown to be one of the worst affected. There are, by way of contrast, areas in the south, such as Kerala, in which the sex ratio is within the 'normal' range. The Punjab-Kerala comparison has shown that the law on sex-selection is not determinative when it comes to combating skewed sex ratios. The imbalanced sex ratio has come about due to son preference, (or daughter discrimination), which has been cultivated by social, economic and cultural factors. Sex-selection does not occur because it is lawful, it occurs because of socio-economic and cultural factors regardless of whether it is lawful.⁸⁵⁵ Therefore, the law alone cannot

⁸⁵⁵ Kishwar makes this point. In order to affect reforms to sex-selection, a new social consensus needs to be created. The law can then follow the 'new' social consensus against sex-selection. Laws will not of themselves create a new social consensus, see Madhu Kishwar, 'Abortion of Female Foetuses: Is Legislation the Answer?'

prevent it.

Applying this to the UK then, not only is there no son preference amongst the general population, son preference is also highly unlikely to come into existence. There are vast differences in cultural, social and economic norms between Punjab and UK.⁸⁵⁶ Daughters are rarely seen by British couples as 'economic drains' by virtue of their sex; dowry does not exist amongst the general population; both men and women inherit property equally in the UK, subject to the testamentary freedom of their parents; and patrilocal (or matrilocal) post-marriage residence is not operated as part of wide-scale social or cultural preference, most co-habiting couples live separately from their in-laws. Therefore, there is virtually no possibility of the legalisation of the procedure leading to skewed sex ratios amongst the general population.

In fairness, many objectors to the procedure, including the HFEA, appeared to acknowledge this. The most important question is whether the prohibition of sex-selection for non-medical reasons can be justified on the basis that a small proportion of the population display son preference to such a degree that this may skew sex ratios amongst certain communities.⁸⁵⁷ Several points can be made in relation this. Firstly, those of Punjabi ethnicity account for a very small percentage of the population. It is difficult to cite exact statistics in this regard. However, the 2011 Census statistics reveal that 7.5 per cent of the population of the UK is

(1993) 2 *Reproductive Health Matters* 113, 114-15. The same point has also been noted by Croll in relation to sex-selective abortions, see Croll (n 649) 16.

⁸⁵⁶ Despite the fact that there is dispute surrounding which of these factors is most prominent in leading to son preference, and thereafter to sex ratio imbalance, (if at all), the point is that none of them apply to the general UK population in any case. The UK does not exhibit any of these factors to any degree great enough to attribute it with significance in this context. So there is no need to consider the weight of them, as they do not apply to the UK at all.

⁸⁵⁷ Other problems that may arise amongst the Punjabi community due to the permitting of sex-selection for non-medical reasons via PGD, such as coercion of women and sex discrimination, will be discussed in chapter 7.

made up of people of ‘Asian or Asian/British’ ethnicity.⁸⁵⁸ This appears to include those of Indian, Chinese and other Asian ethnicities. It is unclear what proportion of this percentage is made up of people of Indian ethnicity, or more specifically Punjabi ethnicity. In 2007, the Department of Health estimated that 2.1 per cent of the population of England is made up of people of ‘Indian’ ethnicity.⁸⁵⁹ A small proportion of these are likely to be of Punjabi origin. Therefore, any skewing of the sex ratio amongst Punjabis in the UK would not realistically affect the overall sex ratio to any noticeable degree. Clearly, the concern about sex ratio imbalance extends beyond the use of the procedure by those of Punjabi ethnicity. The concern is that people from other states in northern-India and China would use sex-selection for non-medical reasons in the UK. However, even if this is accepted, the statistics suggest that people of north-Indian and Chinese ethnicities constitute a very small percentage of the population. The proportion of people within these ethnicities displaying strong son preference, (who are likely to be first generation immigrants, for reasons discussed above), would be smaller still.

Secondly, in order for the UK Punjabi sex ratio to be skewed by the availability of sex-selection, several conditions would have to be satisfied: firstly, Punjabi couples or individuals would have to display son preference; secondly, this son preference would have to be strong enough to lead couples or individuals to undergo sex-selection; thirdly, son preference, leading to sex-selection, would have to be widespread enough to affect a sufficient number of couples or individuals so as to skew the sex ratios of UK Punjabis; and finally, the sex-selection would have to be by way of PGD.

⁸⁵⁸ This has been calculated on the basis of the statistics released following the 2011 UK Census. The Census reveals that there are 4,213,531 people of ‘Asian/Asian British’ ethnicity out of a total population of 56,075,912, see Nomis, Official Labour Market Statistics, ‘Ethnic Group by National Identity’ (*Census of UK 2011* 31 July 2013) <www.nomisweb.co.uk/census/2011/LC2202EW/view/2092957703?rows=c_ethpuk11&cols=natid_all> accessed on 5 August 2013.

⁸⁵⁹ Department of Health, *A Practical Guide to Ethnic Monitoring in the NHS and Social Care* (29 July 2005) <www.lho.org.uk/download.aspx?urlid=9743> see also <http://webcache.googleusercontent.com/search?q=cache:cR_YKb5RsYsJ:www.lho.org.uk/download.aspx%3Furlid%3D9743+%&cd=3&hl=en&ct=clnk&gl=uk&client=safari> accessed on 27 August 2013.

There are several points in response to this. Firstly, it has been shown above that, whilst son preference is present amongst UK Punjabi people, it is predominantly amongst the older generations and first generation immigrants. A study by Puri and others confirms that sex-selection is predominantly used by this section of the community. The study considered the reaction of women, in particular Sikhs, who immigrate to the United States where certain forms of sex-selection are available and openly marketed. It found that son preference was clearly displayed amongst those seeking such treatment, and that there was family pressure to use sex-selective technology. However, those seeking the procedure were first generation immigrants.⁸⁶⁰ Where son preference had filtered down to the younger generations, (of childbearing age), it was manifested in a more diluted form.

Secondly, as has been discussed above, PGD is very expensive, time-consuming and physically and emotionally onerous. If it were lawful, it is unlikely that sex-selection for non-medical reasons would be available on the NHS. Therefore, only the relatively wealthy would be able to afford it. This section of the Punjabi community would be likely to be professional and relatively well-educated. The research above has shown that amongst this section of the community, women are able to more readily resist the family and social pressures to produce a son. Therefore, it is arguable that those who could afford PGD to produce a son would not only be less likely to hold the requisite degree of son preference to compel them to undergo the procedure, but would also be more likely to resist pressures from others to undergo the procedure. There would inevitably be an exceptional few who could both afford the procedure and who held sufficiently strong son preference to compel them to undergo the procedure. However, it is highly unlikely that there would be enough members of this category to cause

⁸⁶⁰ Puri, ““There is Such Thing as Too Many Daughters”” (n 853) 1172.

any skewing of the sex ratio amongst the UK Punjabi community. Further, the HFEA's own evidence suggests that the requisite degree of son preference was displayed by those who already had two or more daughters. Therefore, sex-selection would be more likely to be used to 'balance' family sex composition, rather than to skew sex ratios by creating 'son only' families.⁸⁶¹ In order to alleviate any remaining concerns about the creation of potential sex ratio imbalances amongst those of Punjabi ethnicity, (or any other ethnic groups for that matter), a strict regime of monitoring could be adopted.⁸⁶² It could quite easily be made compulsory for clinics to maintain records of the use of sex-selection for non-medical reasons and the ratios of resulting male to female children. This could initially be piloted in order to identify potential issues that could be ironed out before expanding the scheme countrywide. This would be consistent with a commonly accepted interpretation of the precautionary principle, as discussed in chapters 3 and 4.

It should be noted that there have been suggestions of certain ethnic minority groups unlawfully seeking sex-selective abortions and clinicians showing willingness to perform them since the debates. It has been implied that India-born women are at the centre of this.⁸⁶³

⁸⁶¹ Liu and Rose make the point that although the availability of sex-selection could shift the balance of sex ratios amongst ethnic groups displaying son preference, 'because the average number of children per couple [seeking sex selection] is about 2.7, it is clear that the shift would only be in a small subset of this population and not in the whole', in Peter Liu and Alan G Rose, 'Sex Selection: the Right Way Forward' (1996) *Human Reproduction* 2343, 2344.

⁸⁶² Dahl, 'Procreative Liberty' (n 348) 384.

⁸⁶³ Sylvie Dubuc and David Coleman, 'An Increase in the Sex Ratio of Births to India-Born Mothers in England and Wales: Evidence for Sex-Selective Abortion' (2007) 33 *Population and Development Review* 383. Dubuc and Coleman found that, since 1969, sex ratios of babies born of Indian-born mothers have become increasingly imbalanced. They attributed this to sex-selective abortion, (392). However, there was no clear evidence of this other than the assertion that 'No other explanation [for the imbalances in sex ratio] seems possible', (395). This was not explicitly a suggestion of sex-selective abortion occurring in the UK. They appeared to suggest that women would request the procedure in the UK and, 'if their request is rejected in Britain', they would travel to India to undergo the procedure, (395). Further, the findings of imbalanced sex ratios related to higher parity birth orders as opposed to the first, or even first few, children, (389 and 396). Whilst the study considers the idea of couples continuing to produce children until a boy is born, (396), it does not directly and adequately address the argument that higher sex ratios amongst the third or fourth etc born child may be due to the fact that Indian-born mothers may be more likely to have three or more children where the first two are girls. Therefore, it is arguably more likely, on the balance of probabilities, that these later children will be boys where the first two have been girls, (especially given the fact that the sex ratio at birth naturally favours boys as set out above). Where Indian-born mothers already have one or two boys, however, it is arguably less likely that they will go on to have a third

A recent abortion scandal received substantial media attention in February 2012. It was reported that consultants at British clinics had been secretly filmed agreeing to abortions on the grounds of the foetus being of unwanted sex. It was also reported that ‘health officials’ were set to investigate these claims.⁸⁶⁴ Further, in April 2012, Birmingham’s Calthorpe Clinic was accused of granting an abortion to a woman stating that she was carrying a female foetus and her partner did not want another girl. This woman was, once again, accompanied by an ‘under-cover’ reporter using secret filming methods.⁸⁶⁵

However, these reports must be treated with caution for a number of reasons. Firstly, whilst certain of the reports appear to suggest that those seeking sex-selective abortions have been of south-Asian origin, there are no direct statements to this effect. In fact, the Guardian reports that those attending the clinics (under-cover) asking for such procedures were from a variety of ethnic backgrounds.⁸⁶⁶ Secondly, and more fundamentally, the media reports have made available no evidence to substantiate the claims of such procedures actually occurring. The Guardian’s report suggests that the clinics were prepared to offer such abortions, when asked by undercover agents posing as patients, not that they actually carried out such procedures.⁸⁶⁷ And finally, there has been very little disclosure of sources. The main cited source has been Dr Vincent Argent, a GP and consultant obstetrician gynaecologist. He is reported as having

or fourth child, which, by the same criteria may be more likely to be a girl. If they did the latter more often, it is likely that the sex ratio amongst higher parity children would be more balanced. This notion of ‘differential stopping behaviour’ has been discussed in the context of the Indian sex ratio imbalance by many researchers. See for example: Arokiasamy, ‘Sex Ratio at Birth and Excess Female Child Mortality’ (n 435) 60; Rukmini Potdar, ‘Son Preference and its Impact on Fertility in India: A Comparative Study of Fourteen Indian States’ (PhD thesis, Cornell University 2003) 25, 28, 37, 144, 185 and 200-1. This is not to entirely discount the possibility that sex-selective abortions are occurring within the UK. However, we must treat purported evidence of its occurrence with caution until other potential reasons for sex ratio imbalances amongst third or higher parity children are properly investigated. Further, this theory has been applied by Dubuc and Coleman only to women born in India, (first generation immigrants), it does not tell us about the retention of son preference amongst second or third generation immigrants. Further, even if women are electing to abort on the grounds of sex, given the extremely high financial cost of PGD, it does not follow that they would also elect to undergo PGD to choose sex.

⁸⁶⁴ For example see Jasmine Coleman (n 2).

⁸⁶⁵ Newell (n 2).

⁸⁶⁶ Jasmine Coleman (n 2).

⁸⁶⁷ *ibid.*

stated that he is in ‘no doubt’ that sex-selective abortions have been occurring, both where the woman has not disclosed her reasons to the clinician, and where she has. The Telegraph reported that Dr Argent had stated that, ‘he believed... some colleagues had arranged terminations relating to the sex of the foetus and they felt it was reasonable to do so’.⁸⁶⁸ The Guardian recently published an article revealing that the CPS were of the view that they had sufficient evidence to prosecute two doctors for an attempted breach of the Abortion Act, by virtue of them being willing to offer sex-selective abortions to the undercover reporters. However, there is no suggestion that the CPS unearthed any evidence of any sex-selective abortions having actually been carried out. Further, the CPS failed to actually prosecute either of the two doctors involved in the scandal on ‘public policy’ grounds.⁸⁶⁹ In these circumstances, it would be difficult to justify placing any weight upon newspaper reports of covert investigations and ‘sting’ operations as they fail to provide evidence of sex-selective abortions occurring in the UK.⁸⁷⁰ Further, these reports add to, rather than detract from, the

⁸⁶⁸ Claire Newell and Holly Watt, ‘Sex-Selection Abortions are ‘Widespread’’ (24 February 2012) <<http://www.telegraph.co.uk/health/healthnews/9104994/Sex-selection-abortion-are-widespread.html>> accessed on 25 August 2013.

⁸⁶⁹ David Batty, ‘Jeremy Hunt Steps in After CPS Decides not to Prosecute Abortion Doctors’ *The Guardian* (5 September 2013) <www.theguardian.com/world/2013/sep/05/jeremy-hunt-cps-not-prosecute-abortion-doctors> accessed on 5 September 2013. For further information on the initial investigations see: — — ‘Sex-Selection Abortion Claims Sparks Andrew Lansley Investigation’ *The Guardian* (22 February 2012) <<http://www.guardian.co.uk/world/2012/feb/22/sex-selection-abortion-investigation>> accessed on 25 August 2013; — — ‘Sex Selection and Abortion: Keep Within the Law’ (*General Medical Council* 22 August 2012) <www.gmc-uk.org/publications/12225.asp> accessed on 26 August 2013; — — ‘Abortion: Gender Claims Probed by Department of Health’ *BBC News* (23 February 2012) <<http://www.bbc.co.uk/news/health-17136213>> accessed on 25 August 2013.

⁸⁷⁰ Further, it should be borne in mind that there is a very fine line between abortions which are condemned as being unlawfully ‘sex-selective’ and those which legitimately fall within the Abortion Act 1967. The Act does not explicitly permit the procedure, but it does not explicitly prohibit it either. An abortion will be lawful according to the Act where two medical practitioners form the opinion in good faith that the situation falls within one of four grounds. The most relevant ground for the purposes of this discussion is contained in section 1(1)(a) ‘that the pregnancy has not exceeded its twenty-fourth week and that the continuance of the pregnancy would involve risk, greater than if the pregnancy were terminated, of injury to the physical or mental health of the pregnant woman or any existing children of her family’. Sheldon has used the example of a woman seeking abortion following rape in order to illustrate that sex-selective abortion may fall within the Act. There is no provision in the Act specifying that providing an abortion following rape legitimately falls within the Act. However, it is accepted by most people, (including, she notes, the MPs debating the Act in the 1960s), that it does fall within the Act. Such an abortion would be highly likely to be permissible under the ‘injury to... mental health’ provision. Sheldon argues that a similar case could be made for a woman who finds herself carrying a female foetus and lives amongst a family and community which places a heightened importance on sons and threatens to leave her homeless unless she aborts it. It is acknowledged that many would see the most desirable alternative to be that the woman removes herself from this situation. However, that is not always a realistic

arguments presented above, that those displaying strong enough son preference to compel them to undergo sex-selective procedures would be likely to be first generation immigrants.

The second objection to consider is that of ‘setting a bad example’ for India. This has already been considered in chapter 4. However, certain further points should be noted. It is unclear whether this criticism relates to Indian citizens or the Indian government. I will first consider Indian citizens. In India, the law could not in and of itself effect change. Even to this day, a large proportion of the Indian population are unaware of its full impact. Those who are aware have been made aware through widespread campaigning in the locality. It is highly unlikely that UK law would have any significance in India because, firstly, such a small proportion of people would be aware of it.⁸⁷¹ Secondly, the Government would have no reason to plough substantial resources into making people aware of it.

If the criticism is that UK law could set a bad example for the Indian Government, the point is the same as made above. The issue in India is not just about the availability of pre-implantation or pre-conception methods of sex-selection encouraging people to partake in the activity. It is about a fundamental preference for sons amongst the vast majority of states in

option. In this scenario, there would be a strong case for the abortion preserving the patient’s mental health, see Sally Sheldon, ‘Is it Illegal to Abort an Unborn Baby Because of its Sex? Not Necessarily’, *The Guardian*, (28 February 2012) <<http://www.theguardian.com/law/2012/feb/28/is-sex-selective-abortion-illegal>> accessed on 25 August 2013; ‘Abortion for reason of sex: correcting some basic misunderstandings of the law’ (2012) 37 *Abortion Review* 2, 2-3. Sheldon illustrates the practical difficulties of successfully prosecuting a doctor under s. 58 of the Offences Against the Person Act 1861, as a result of him or her falling short of the Abortion Act defence, by setting out several examples of cases in which such prosecutions have failed, see Sally Sheldon, *Beyond Control, Medical Power and Abortion Law* (Pluto Press 1997), 79-87. The evidence above of the exceptional importance placed upon having a son amongst some people of Punjabi ethnicity adds weight to this argument. Traditionally, having a son is so linked to a Punjabi woman’s social status that, for certain (albeit small) sections of the Punjabi community in the UK, having a daughter where a son is expected could result in social exclusion and hostility within the family, which is most likely to occur amongst those who have recently moved from Punjab to the UK. Given the long-lasting emotional, social and cultural consequences of producing a daughter where a son is required, forcing such a woman to continue with a pregnancy could pose a much greater risk to her mental health than terminating it. It would therefore be difficult to argue that all abortions requested on the grounds of foetal sex fall outside of section 1(1)(a), as there may well be a greater risk of the pregnancy having adverse consequences for the woman’s mental health than the requested termination.

⁸⁷¹ Dahl, ‘No Country is an Island (n 368) 11; Wilkinson, *Choosing Tomorrow’s Children* (n 304) 240.

India which fuels sex-selection. The methods are a by-product of this desire⁸⁷² and include a series of extreme measures such as infanticide, neglect and sex-selective abortions. None of these are a serious live issue in the UK. The Indian Government is aware of how serious the problem is. Punjab is aware of how serious the problem is. This is evidenced in the wide-scale measures that are being employed in attempt to tackle the issue. There is no ban in India on pre-conception methods of sex-selection in any case. The point is that sex-selection via preconception methods is a drop in the ocean compared to the problem as a whole. What the UK does in relation to the miniscule issue of preconception sex-selection, in the absence of any action in respect of the other methods, is unlikely to sway the Indian Government from its stance.⁸⁷³

In addition to these points, the issue of law enforcement and regulation should be stressed. In India, for reasons that are beyond the scope of this chapter, the law has proved to be very difficult to implement. The impact of any given law must be assessed within its context. In India, the law on sex-selection is seeking to force changes to existing practices that are based upon entrenched social, cultural and economic norms. This is a very difficult task. That is why the sex ratio is still highly unbalanced. The problems with the implementation of the Indian Act have been set out above. This is a far cry from law enforcement and regulation in the UK. Alleged breaches of the law do occur. However, where they are flagrant, or even merely beyond trivial, they are often widely publicised. The recent sex-selective abortion scandal demonstrates this.⁸⁷⁴ There is no reliable evidence to suggest that the UK prohibition of sex-selection for non-medical reasons using PGD is being breached.

⁸⁷² ‘Although new technologies may have played a role in increasing discrimination it is important to note that patterns of discrimination are not always contingent upon the availability of new technologies; this suggests that these are still a means or an outcome rather than a cause of discrimination’, in Croll (n 649) 16.

⁸⁷³ Wilkinson raises another argument against the objection, which is that the UK could only be seen to be setting a bad example for India if permitting the procedure is actually wrong. For if it is not wrong to permit the procedure, then it would not be an example of something bad, see Wilkinson, *Choosing Tomorrow's Children* (n 304) 241.

⁸⁷⁴ Even though sex-selective abortion does not even appear to be a breach of any UK law or policy.

(f) Conclusions

The problematic sex ratio imbalance in India was raised as part of two objections to permitting sex-selection for non-medical reasons in the UK: that sex-selection may lead to the UK, (and/or the UK Punjabi),⁸⁷⁵ sex ratio becoming skewed, as has happened in India and that permitting sex-selection in the UK may set a bad example for countries such as India. The first of these objections has occupied a large proportion of this chapter.

The underlying reasons for the sex ratio imbalance in India have been examined in this chapter. The imbalance has been caused by the desire for sons. The factors that have given rise to, and sustained, son preference have become apparent through a comparison of Punjab and Kerala. Amongst these factors, the view of daughters as financial liabilities and not responsible enough to support themselves and make their own decisions has emerged as highly significant. This factor is made up of many elements, including dowry, patrilineal inheritance and patrilocal residence post-marriage. Punjab displays all of these factors. It also exhibits high degrees of son preference, as is evidenced by its sex ratio. Kerala on the other hand, traditionally displayed none of these elements. In fact, in many respects, its cultural, social and economic norms were the antithesis of this. Kerala historically displayed virtually no son preference at all. As Kerala has begun to display certain norms that have traditionally been displayed by Punjab, son preference has started to develop. The UK displays none of these factors. It is, therefore, very unlikely that son preference will develop amongst the general population. The likelihood of UK sex ratios becoming skewed due to sex-selection via PGD is therefore very slim indeed. Whilst son preference has been found amongst those of

⁸⁷⁵ The objection did not relate specifically to those of Punjabi ethnicity, but to ethnic minorities from outside of Europe generally.

Punjabi origin in the UK, it has generally become diluted over time. Given the expense and physical demands of PGD, it is unlikely that more than an insignificant few Punjabi couples would pursue sex-selection for non-medical reasons via this method. It is likely that amongst the few couples who would undergo the procedure, most of them would be seeking it in order to balance, rather than imbalance, the sex ratio of their family.

Given the immense problems relating to sex ratio faced by certain Indian states, the Indian government passed detailed legislation prohibiting sex-determination. Pre-conception methods of sex-selection have not been prohibited as they appear to be rarely used in India. The Government has made huge efforts subsequently to seek to publicise the legislation and the sex ratio problems. Whilst these efforts have not always been successful, the efforts have continued over the past decade and the 2011 Census of India reflects the fact that sex ratios have improved since the 2001 Census. The Indian Government appears to understand and accept that the sex ratio needs to be dealt with. It is unfair to suggest that permitting sex-selection via PGD would somehow change the perception of the Indian Government towards India's sex ratio problem and encourage it to abandon efforts to tackle it. Objections relating to sex ratio imbalance and 'setting a bad example' do not, therefore, provide legitimate justifications for the prohibition.

CHAPTER 7

PUNJABI WOMEN

In Chapter 6 it has been established that son preference exists amongst Punjabi women in the UK. However, this is qualified in several respects. Firstly, it appears to have been generally diluted through second and third generation immigrants. Secondly, education and social status of Punjabi women in the UK appears to dilute son preference. Thirdly, therefore, son preference appears to exist in its strongest form amongst first generation immigrants, in particular those who have recently immigrated. Given this, it has been argued that it is unlikely that a significant sex ratio imbalance would occur amongst the Punjabi community were sex-selection via PGD to be permitted for non-medical reasons.

Chapter 7 will consider whether permitting sex-selection for non-medical reasons via PGD would be detrimental to women in ways other than sex ratio imbalance amongst the UK Punjabi population. A related question is whether the presence of strong son preference amongst a minority of those of Punjabi ethnicity actually adds weight to the argument that the procedure *should* be permitted. Central to these questions is the much debated issue of how far the State should legitimately be able to interfere with ‘reproductive liberty’. Rather than looking at reproductive liberty generally, it will be considered specifically in the context of sex-selection for non-medical reasons sought by those of Punjabi ethnicity. This is a very important perspective from which to consider the question given the findings relating to son preference set out in chapter 6. Chapter 7 will consider the following. Firstly, does sex-selection for non-medical reasons amount to discrimination or does it encourage discriminatory practices? If so, what should be done about this? And secondly, even if it does, does this justify the interference with women’s lives that prohibition entails? This latter

question will be explored by considering what detriments may flow out of prohibition for Punjabi ethnicity women in the UK, as it may be that prohibition of the procedure is actually more damaging for women than its practice.⁸⁷⁶

(a) Sex Discrimination

The first issue, and one of the objections to the procedure during the debates leading to the 2008 Act, is whether sex-selection for non-medical reasons gives rise to, or bolsters, sex discrimination and should be prohibited on this basis.⁸⁷⁷ The first task is to define sex discrimination. Section 1(1)(a) of the Sex Discrimination Act 1975 provides that a person discriminates against a woman if ‘on the ground of her sex he treats her less favourably than he treats or would treat a man’.⁸⁷⁸ Section 5(2) provides that “‘woman” includes a female of any age’.

The second task is to determine how this applies to sex-selection for non-medical reasons. It

⁸⁷⁶ It has been stressed by some academics that rights of women and ‘reproductive liberty’ should not be considered in isolation in the context of artificial reproduction: regard must also be had to the ‘welfare of the child’, (for example see Laing (n 307) 331 and 334), which may override all other considerations. The impact of sex-selection for non-medical reasons upon the welfare of both potential (resulting) and existing children has already been considered at length in chapter 3. It has been argued that the welfare of children does not justify the prohibition of the procedure. These arguments will not, therefore, be repeated in chapter 7.

⁸⁷⁷ Following its 2002-03 consultation, the HFEA set out that the possibility of ‘reinforcing discriminatory treatment of one sex’ was one of the objections that participants had raised against permitting sex selection for non-medical reasons, see: *Options for Regulation* (n 75) 17, para 63; 33, para 135; *Choice and Responsibility* (n 95) 25, paras 82 and 96-99. Other references were made to the potential for sex discrimination throughout the debates in the following manner: it was raised in 1993 that it would reinforce sexual stereotypes against women and that it would lead to widespread preference of boys over girls. The predominant concerns expressed were those relating to discrimination, see: Campbell (n 70); *Human Reproductive Technologies and the Law 5th Report I* (n 140) 61, para 134; People Science & Policy (n 162) 39-41, para 5.6; Joint Committee on the Human Tissue and Embryos (Draft) Bill, *Human Tissue and Embryos (Draft) Bill* (2006-07, HL 169-I, HC 630-I) 107, paras 16-19.

⁸⁷⁸ The section continues: or

(b) he applies to her a requirement or condition which he applies or would apply equally to a man but—
(i) which is such that the proportion of women who can comply with it is considerably smaller than the proportion of men who can comply with it, and
(ii) which he cannot show to be justifiable irrespective of the sex of the person to whom it is applied, and
(iii) which is to her detriment because she cannot comply with it.

was argued in chapter 4 that sex discrimination arguments cannot be applied to unselected female embryos as, firstly, they never come into existence as resulting children and so never pass the threshold for having sufficient interests to be discriminated against and secondly, embryos are routinely discarded during all IVF procedures in any case. It was concluded, therefore, that sex discrimination objections must be considered in a more general sense. How, then, has the procedure been alleged to amount to or to encourage sex discrimination in this more general sense? The main objections to the procedure based on sex discrimination are as follows. The first centres round ‘sex-stereotyping’.⁸⁷⁹ The concern is that children selected for their sex will be forced to conform to stereotypes socially, but not necessarily biologically, attached to their sex.⁸⁸⁰ A related concern is that the very fact that the sex of offspring matters to someone means that they have ‘sexist attitudes’ towards their children or future children. This is because they may think that ‘little girls should be sweet and quiet, for example, or boys tough and brave – and will try to impose these views on the child’.⁸⁸¹ It has been argued that in this respect, their perceptions of sex difference are ‘false’⁸⁸² in that they are not based upon biological difference but exaggerated views of the impact of sex upon personality and behaviour.⁸⁸³ Secondly, it could be argued that sex-selection for non-medical reasons is driven by and furthers sexist views,⁸⁸⁴ the most notable being ‘sex supremacism, the belief that one sex is better than the other...’⁸⁸⁵ On this basis, it has been argued that sex-selection should, ultimately: ‘be criticised either because it is an instance of collusion with a sexist society, or because of the social consequences of ‘going along with’ and possibly

⁸⁷⁹ ‘sex-stereotyping... involves an exaggerated view of the difference that sex makes, or ought to make, to people’s personal characteristics and behaviour’, in Wilkinson, ‘Sexism, Sex Selection and Family Balancing’ (n 54) 384.

⁸⁸⁰ *ibid* 385.

⁸⁸¹ Bonnie Steinbock, ‘Sex Selection: Not Obviously Wrong’ (2002) 32 *Hastings Centre Report* 23, 25.

⁸⁸² Wilkinson, ‘Sexism, Sex Selection and Family Balancing’ (n 54) 386.

⁸⁸³ Wilkinson, *Choosing Tomorrow’s Children* (n 304) 227.

⁸⁸⁴ Jonathan M Berkowitz and Jack W Snyder, ‘Racism and Sexism in Medically Assisted Conception’ (1998) 12(1) *Bioethics* 25, 25 and 32.

⁸⁸⁵ Wilkinson, ‘Sexism, Sex Selection and Family Balancing’ (n 54) 384.

reinforcing gender role stereotyping...'⁸⁸⁶ Wilkinson notes that both of these elements are closely connected to attitudes about the rights and status of women⁸⁸⁷.

Thirdly, sex-selection could be seen as more generally discriminatory, as a societal harm, in the following sense:

To choose a specific characteristic must necessarily imply a preference for that specific characteristic when compared to other members of the same set of mutually exclusive options... [eg] To deliberately choose brown eyes must imply a preference for brown eyes over other possible colours. It is arguable that to prefer something is to value it more highly than the other possible options... Persons with A [characteristic] could in that case plausibly claim that allowing people to choose against A legitimizes and reinforces the underlying social bias against A.⁸⁸⁸

There is, admittedly, merit in the argument that the procedure is linked to sexism and sex discrimination. However, there are several reasons why (a) the objections set out above should be treated with caution; and (b) why these objections do not necessarily justify the prohibition. In relation to (a), firstly, in the context of most UK citizens seeking sex-selection, they want a family with children of both sexes.⁸⁸⁹ In the context of Punjabi UK families, chapter 6 has presented evidence that they seek sex-selection in order to produce a boy for family balancing purposes, (and that it is very unusual for them to seek sex-selection for the birth of the first or even second child, indicating that they are not so concerned that these may

⁸⁸⁶ *ibid* 387.

⁸⁸⁷ *ibid* 384.

⁸⁸⁸ Holm uses this as an example of the well-rehearsed argument relating to the 'problem of the commons', whereby the acceptable actions of individuals, when adopted by many individuals, lead to unacceptable collective outcomes. See Soren Holm, 'Pre-Implantation Genetic Diagnosis', in John Harris and Soren Holm (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Clarendon Press 1998), 187-188.

⁸⁸⁹ Dahl, 'The 10 Most Common Objections' (n 107) 160.

be girls),⁸⁹⁰ thus they also want a family with children of both sexes. This can hardly be said to be treating girls less favourably.

Secondly, if it is accepted that sex-selection is driven by sexism and is therefore ‘colluding’ with sexist society and somehow reinforcing sexist stereotypes, then the prohibition of the procedure could be seen as being part of this collusion. It seeks to prevent women from being able to choose to have something done to their own bodies and it does so for their ‘own good’. This in itself is a comment upon the status of women in society and how they ‘should’ behave. Because they cannot be trusted to behave in the manner in which they socially ‘should’ they will be forced to do so by law.⁸⁹¹ This is also very relevant to the third sex discrimination based objection set out above that allowing women to choose boys sends out a social message that boys are better than girls. Denying women this choice equally sends out a message that women are not responsible enough to be trusted with such decision-making.⁸⁹²

In relation to the possibility of sex-selection reinforcing gender stereotypes and these stereotypes being imposed upon the resulting children, firstly, there is no evidence to substantiate the claim that parents using sex-selection would treat their children any differently to parents who produce their children ‘naturally’.⁸⁹³ Secondly, even if it is accepted that this may happen in certain cases, as has already been discussed in chapter 3, it is

⁸⁹⁰ The mean number of daughters already in a family seeking a boy was 2.75, see Liu, ‘Social Aspects of >800 Couples’ (n 278) 969.

⁸⁹¹ ‘If a “right consciousness” is imposed from the outside by “right thinking” feminists who know what women should want, then the degraded status of those upon whom it is imposed is affirmed rather than challenged. This “corrective” to false consciousness perpetuates the cycle it tries to break and, ironically, reinforces the intractability of women’s position in society...’, in Drucilla Cornell, *At the Heart of Freedom, Feminism, Sex and Equality* (Princeton University Press 1998), 169.

⁸⁹² The implications of this are discussed further in section (b) below.

⁸⁹³ Wilkinson makes a similar point in Wilkinson, ‘Sexism, Sex Selection and Family Balancing’ (n 54) 387. Further, Wilkinson argues that where ‘a particular set of parents was going to inflict such a degree of sexist parenting on a child that state interference was justified, then it would surely make more sense for this to be a social services intervention aimed at rescuing the child...[rather] than an intervention that stopped the child from coming to exist at all (by banning sex selection)’, in Wilkinson, *Choosing Tomorrow’s Children* (n 304) 230.

less likely that Punjabi parents would impose sex-stereotypes upon their sons than the general UK population as they primarily seek the status attached to the *gender* of the son rather than any attribute attached to the gender.⁸⁹⁴ For the exceptionally few parents who did impose sex-stereotypes upon their children, this would not be attributable to the sex-selection itself. They would already hold these beliefs and would already be treating their existing children, (whether born via sex-selection or naturally) in this manner, as many parents do. The sex-selection would not, therefore, be reinforcing their beliefs about sex-stereotyping. They would hold these beliefs and act upon them regardless. Wilkinson makes an important related point that in the ‘real social world’, the upbringing of the vast majority of children means that certain non-biological characteristics, such as a desire to shop or fish, are imposed upon girls and boys respectively anyway. Therefore, for parents to choose a girl or boy because they want them to possess these social (rather than biological) characteristics is not necessarily an instance of stereotyping because it is almost inevitable that, due to social norms and pressures, the child will develop these characteristics anyway. Their judgment that their son will be a ‘certain way’ is not sexist provided that it is ‘factually correct’, (in other words, he will develop those attributes anyway due to social circumstances).⁸⁹⁵ Therefore, whilst there is merit in the argument that the procedure could be used by people who possess sexist views, who want a boy because they believe that boys are better than girls, there are several reasons to doubt that the procedure itself would significantly encourage and bolster sexist views.

⁸⁹⁴ This hypothesis is based upon the findings in chapter 6 that even though the traditional attributes attached to the male gender of a son, (such as the expectation that they will care for their parents in old age and will help to arrange the weddings of their sisters), are in certain respects ‘dying out’ in Punjab, son preference is still strong. Amongst those displaying son preference in the UK there is even less of an expectation that their sons will fulfil these traditional ‘son-roles’ as the cultural and social environment is so different. What these parents desire is the status which is automatically attached to having a son from the moment of his birth. This is evidenced by the fact that the mere birth of a boy, without any further socially constructed or conditioned gender attributes being displayed, is widely celebrated and is a cause for much joy within the family, (in direct contrast to the birth of a girl). The desire for a son has become an ‘emotion’. Therefore, Punjabi families displaying strong son preference in the UK will, (according to their own perception and the perception of the Punjabi community generally), gain the social status which they desire through producing a son, regardless of whether the resulting boy displays stereotypically ‘male’ characteristics.

⁸⁹⁵ Wilkinson, ‘Sexism, Sex Selection and Family Balancing’ (n 54) 387, 387.

I will deal now with (b) above, that the procedure being based partially upon sexist views does not necessarily provide a justification for prohibiting it. Certain of these views, whilst attracting moral condemnation, are not necessarily ‘substantially harmful’.⁸⁹⁶ Wilkinson illustrates the point thus:

sexism (especially sex stereotyping) is pretty widespread and may be involved in practices ranging from jokes, to social expectations around dress and appearance, to marriage and relationships, and beyond. Thus, the scale of State intervention required to prohibit sexism in all its forms would be immense and such a policy is neither feasible nor desirable.⁸⁹⁷

In other words, there are many social norms and activities that have arisen out of, and are employed by, those who hold sexist views. Many of these practices encourage women to behave in a certain way. It is arguable that those encouraging women to vow to ‘honour and obey’ their husbands, whilst encouraging husbands to ‘protect’ their wives, (but not vice-versa), are re-affirming sex stereotypes and perhaps, even, encouraging a view of women as weak and subservient. However, it would be difficult to justify banning the taking of these vows during marriage ceremonies on the basis of sexism. This would be disproportionate. In the same respect, the links between sex-selection and sex discrimination should be placed into perspective.

This leads to another issue which applies both to the Punjabi community within the UK and more generally. It is apparent that sexism exists, particularly amongst those of Punjabi

⁸⁹⁶ Wilkinson uses harm in this context to mean the setting back of interests, see Wilkinson, *Choosing Tomorrow's Children* (n 304) 229-230.

⁸⁹⁷ *ibid* 230.

ethnicity. Certain elements of sexism, such as most examples of sex stereotyping, (encouraging girls to wear pink and to like shopping), are not in themselves harmful. In this respect, the objections to sex-selection for non-medical reasons based on sexism lack any significant weight. However, it is also true that amongst certain sections of the Punjabi community sexism exists in a form and to an extent that it could well be harmful. For example, it has been shown in chapter 6 that amongst certain sections of Punjabi society, sons are treated much better than daughters in relation to the food, education and respect that they are provided with from the moment that they are born. These practices could harm girls and women. This is problematic. Sex-selection, however, is not the problem here. It is a symptom of the problem. The problem is the discrimination itself and, more fundamentally, its causes. This is demonstrated by the following argument. It is arguable that the problematic part of sex-selection for non-medical reasons is not the destruction of female embryos. Around half of all embryos routinely destroyed as part of IVF procedures are female. Yet IVF is lawful and it was not suggested during the reports and reviews leading to the prohibition of sex-selection for non-medical reasons that IVF should be prohibited on the basis that female embryos are being destroyed. The potential problem with sex-selection for non-medical reasons, from the perspective of the Punjabi community, is the *desire* to select male embryos resulting in the female embryos being destroyed. Therefore, it makes no sense to prohibit the procedure whilst leaving the underlying causes of the desire to use the procedure intact. This course of action merely reduces the destruction of female embryos, (which occurs anyway during IVF), but it fails to reduce the problem itself.

It is clear, then, that this discrimination must be addressed. This will require a twofold approach. Firstly, and most importantly, there must be a consideration of its causes.⁸⁹⁸ In

⁸⁹⁸ These ideas have been taken from ibid 229-230.

other words, we must dismantle sex discrimination, thereby exposing and analysing its foundations. The foundations can then be addressed.⁸⁹⁹

Chapter 6 has explored the causes of the beliefs, attitudes and practices upon which such discrimination is based. It has also revealed that, due in large part to the virtual absence of such factors amongst the general UK population, son preference is reducing amongst Punjabi ethnicity people in the UK. What, then, should be done to tackle the strength of son preference and increase daughter-worth amongst UK-born or India-born Punjabi ethnicity people?⁹⁰⁰ The answer is: nothing. In relation to Punjabi ethnicity women who are born in the UK, there is no evidence that the procedure is actually sought to any significant degree amongst these women anyway. The 2007 study by Dubuc and Coleman, cited by the media as part of the scandal surrounding sex-selective abortion, only goes so far as suggesting that sex-selective procedures may be occurring amongst Indian-born mothers and does not allege that it is occurring amongst those born in the UK. Further, it appears that, through the generations born in the UK, son preference has gradually begun to address itself. The studies presented above indicate that if sex-selective procedures, driven by son preference, are sought amongst certain ethnic minorities within the UK, it is amongst specific pockets of this community. These specific pockets are most likely to be constituted of those who have been born and raised in India. It is amongst this section of the community that son preference is likely to be at its most acute. As discussed above, support for this contention can be found in the 2004 study by Culley and others and in the work of Bhachu. Both have found movement away from traditional attitudes surrounding the factors that have led to son preference amongst younger generations of Punjabi ethnicity, who have been born and raised in the UK. These

⁸⁹⁹ This is what chapter 6 has attempted to achieve.

⁹⁰⁰ Malpani argues that the only way to reduce the demand for sex-selective technology in India is to increase daughter-worth, see Aniruddha Malpani, 'Sex-Selection by IVF: the Freedom to Choose' (1998) 6(2) *Indian Journal of Medical Ethics* 54, 54.

studies suggest that as new generations born in the UK become more educated and financially self-sufficient, they demonstrate greater resistance to family pressure to conform to the Punjabi traditions that have fuelled son preference. Therefore, the most effective long-term solution in relation to UK born Punjabi ethnicity women is to do nothing, as son preference appears to naturally neutralise amongst those of Punjabi ethnicity as they become more and more integrated into UK social, economic and cultural norms, (which generally lack the elements which give rise to and sustain son preference).

In relation to Punjab-born women, it is acknowledged that son preference has very deep foundations. Whilst it may have become diluted amongst second and third generation immigrants, it is still likely to be strong amongst those who have more recently immigrated to the UK. It appears to have become a deep-seated emotion amongst some of these women, which will be difficult to combat amongst those who have internalised it. The Indian Government has recognised this and is employing a number of projects aimed at raising the worth of daughters by tackling the factors that reduced their worth in the first place. The research presented above demonstrates that this is beginning to work in reducing son preference and, consequently, the Indian sex ratio is starting to become more balanced. This is a slow process, but progress is being made. Punjab-born women who have very recently moved to the UK have, therefore, probably already been exposed to these pro-daughter measures whilst in India. Once they are in the UK, any beliefs underpinning son preference that they hold are likely to erode even further. The UK does not have to employ any specific measures to achieve this by trying to combat the factors underlying son preference, because they are virtually absent in the UK anyway. Therefore, the fact that Punjabi women moving to the UK will, when outside of the home, be surrounded by a society, culture and economy that do not generally recognise son preference or the factors sustaining it, will begin to reduce the

son preference. This is a very slow process, but the evidence above suggests that it does work. A ban on sex-selection for non-medical reasons does nothing to tackle sex discrimination. Taken at its highest, it removes merely one of thousands of routes through which sexist beliefs may manifest themselves in this community.

The second limb of the approach is minimising the extent to which those who possess sexist beliefs and attitudes which are likely to significantly harm any resulting child are permitted to make use of sex-selection to fulfil sexist objectives. Section 13(5) of the 2008 Act already provides the mechanism through which this could be achieved, as those who would produce resulting children likely to be caused significant harm once born would not be permitted to bring the child into existence in the first place. This would not be completely effective in rooting out those guilty of causing significant harm through sexism, but then no procedure is completely effective. It would provide much greater protection to children born through sex-selection than children born to exceptionally sexist Punjabi parents through ‘natural’ conception are afforded. The latter are left to the mercy of the care system which, again, is a far cry from achieving complete effectiveness. Further, any benefits which could be said to derive from the prohibition for women must be balanced against the detriments it entails.

(b) Punjabi Women

This section will consider whether prohibiting the procedure is more damaging to women than permitting it. The central ways in which banning the procedure could be seen as treating women unfavourably are, firstly, that it curtails their reproductive liberty⁹⁰¹ and, secondly,

⁹⁰¹ Dickens, ‘Prenatal Sex and Race Determination’ (n 433) 376; Wilkinson, *Choosing Tomorrow’s Children* (n 304) 229.

that it underpins the beliefs upon which son preference is based, thus affirming them. The meaning of reproductive liberty and choice for Punjabi women will be considered in order to determine the extent to which these women actually possess and exercise such choice in practice. Reproductive health and the ‘imaginary domain’ will be considered as a potential haven for Punjabi women in which they may consider available options. However, the detriments of providing people with additional choices will need to be considered alongside the detriments to women of prohibiting certain choices.⁹⁰²

(i) Do Punjabi-Born Women exercise Reproductive ‘Choice’?

Definitions of reproductive liberty have been set out in chapter 4. The essence of these definitions is that reproductive liberty entails a ‘freedom’, ‘choice’⁹⁰³ and/or ‘right’⁹⁰⁴ to determine and/or to ‘control’⁹⁰⁵ the meaning⁹⁰⁶ of one’s own reproduction. Taken at its lowest, reproductive liberty involves possessing choices relating to one’s reproductive capacity and activities. The first task is to determine what this means for women of Punjabi ethnicity, in particular those born in Punjab, now living in the UK. The definitions of reproductive liberty have been constructed within ‘western’ culture and society. This is not to say that they cannot be of general application. For the vast majority of Punjabi ethnicity women, no culturally specific issues arise in this regard. But that vast majority would be unlikely to seek sex-selection using PGD. For the minority who would, a proportion would be driven to do so

⁹⁰² It is recognised that any choice relating to IVF is not exclusively that of the woman involved. The woman’s partner will also be involved in decision-making and will be required to provide his consent to certain elements of the treatment, such as the use of his sperm. In this respect, sex selection is very different to the abortion scenario discussed below. However, in the context of first generation Punjabi immigrants, it is the choice of women that is problematic as, in many respects, they are very vulnerable. The reasons for this are discussed in greater detail within this section. It is much less likely that the husband will experience the decision-making difficulties that will be set out below in relation to Punjabi women. For this reason the choices of, and the problems associated with the choices of, Punjabi women, and not Punjabi men, are the focus of the discussion that follows.

⁹⁰³ Robertson, *Children of Choice* (n 266) 22.

⁹⁰⁴ Dworkin, *Life’s Dominion* (n 415) 148.

⁹⁰⁵ *ibid.*

⁹⁰⁶ Robertson, *Children of Choice* (n 266) 22.

by their beliefs and their social and familial situation. The following discussion will focus on that proportion, which in many respects presents the ‘worst-case scenario’ in terms of restricted reproductive liberty. Chapter 6 has demonstrated that certain women of Punjabi ethnicity, in particular Punjabi-born women, live and operate within very different circumstances than the general UK female population in several ways. This is likely to be most applicable to women who have recently moved from Punjab to the UK. Firstly, it has been shown that marriage is socially compulsory for the vast majority of these women in Punjab and they become amalgamated within their husband’s family once married. Decision-making within this family unit is rarely left to the individual, let alone the individual daughter-in-law. Decisions are typically made jointly between family elders and their sons. To a certain extent this includes decisions relating to reproduction.⁹⁰⁷ Secondly, certain Punjabi-born women face extreme pressure from their in-laws to produce children and sons.⁹⁰⁸ The study by Culley and others found that being childless is not socially acceptable amongst certain sections of the Punjabi community in the UK⁹⁰⁹ and being sonless is often seen as being akin to being childless.⁹¹⁰ The presumption of family coercion contained within the Indian legislation is a clear reflection of the pressure to produce sons amongst families in Punjab.⁹¹¹ Chapter 6 revealed that in these families, females are their own worst enemy. Daughters are distinct from other females. They are treated very badly at birth, predominantly through the negative reactions of paternal grandmothers and once married, often by other women, in particular mother-in-laws. Power is gained through having a son. The combination

⁹⁰⁷ John (n 599) 63. Also see International Center for Research on Women, ‘Role of Mothers-in-Law in Young Women’s Reproductive Health: Evidence from Intervention Research in Rural Maharashtra, India’ (*ICRW* 2001-2006) <www.icrw.org/files/images/Role-of-Mothers-in-Law-in-Young-Womens-Reproductive-Health-Evidence-from-Intervention-Research-in-Rural-Maharashtra-India.pdf> accessed on 27 August 2013. However, as will be mentioned below, there are inevitably exceptions to the norm that the decision-making of daughters-in-law is curtailed within this section of the Punjabi community.

⁹⁰⁸ Culley, ‘A Study of the Provision of Infertility Services’ (n 332) 6.

⁹⁰⁹ *ibid* 5.

⁹¹⁰ *ibid* 6.

⁹¹¹ Section 24 of the Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex-Selection) Act 1994.

of these two factors suggest that these women have less individual autonomy in terms of whether, how, when and how many children to have. On one view, women subjected to social and familial pressure to produce children, and children of a particular sex, should not be viewed as having reproductive liberty in the same way that those operating outside of these pressures may have. This is because their choices are likely to be stifled by such pressure. It is possible that in certain instances they do not even make a choice, as they view the matter of how, when and if to reproduce as being a matter outside of their remit of choice.⁹¹² Therefore, to speak in terms of reproductive liberty and rights in this context may be quite misleading.

Fox makes a similar point about the rights rhetoric adopted in relation to abortion. She notes that discussing reproductive issues in terms of ‘a woman’s right to choose’ may not be as productive as traditionally thought.⁹¹³ The reality in relation to reproductive technologies, as well as abortion, is that women may not always willingly ‘choose’ to undergo these procedures. They find themselves in a situation where they are forced to adopt one of two undesirable alternatives, neither of which they find attractive or necessarily want to have to choose.⁹¹⁴

⁹¹² Wilkinson considers this issue in the context of consent. He considers whether such pressures may mean that these women would not give valid consent to the procedure as the pressure that they are under may mean that their consent lacks voluntariness, see Wilkinson, *Choosing Tomorrow’s Children* (n 304) 235. His solution is discussed further below.

⁹¹³ ‘Although the slogan ‘a woman’s right to choose’ has been emblematic of claims for reproductive freedom and the right to control one’s body which form the cornerstone of the women’s movement, I argue that through time this slogan has come to be used unreflectively’, in Marie Fox, ‘A Woman’s Right to Choose?’ in John Harris and Soren Holm (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Clarendon Press 1998), 78.

⁹¹⁴ Cornell also discusses this point when she notes that she places ‘the word “choice” in quotation marks because the word itself trivializes how basic the right to abortion is to women’s individuation. Moreover, it should be obvious that no woman *chooses* to have an unwanted pregnancy... If we could control our bodies, “ourselves,” then we would not need state intervention to ensure conditions for safe abortion’, in Drucilla Cornell, *The Imaginary Domain: Abortion, Pornography and Sexual Harassment* (Routledge 1995), 33. Petchesky makes this point clearly, ‘For women of all social classes and age groups, the necessity of abortion is often perceived to be, and is, the result of external conditions – whether economic, social, medical, or interpersonal – they did not choose. From the standpoint of a concept of consciousness as metabolically related to social reality and needs, the act of choosing to deal with those conditions through an abortion is one of self-determination and therefore self-empowerment’, in Rosalind Petchesky, *Abortion and Woman’s Choice* (Verso 1986), 374.

Given the pressures surrounding Punjabi-born women, whether they would have ‘choice’ in the context of sex-selection for non-medical reasons (were the procedure permitted) clearly warrants further consideration. The question is, to what extent can a decision based on influence or coercion by others amount to a legitimate choice? A preliminary point to note is that no one makes decisions in isolation from their family, social, cultural and/or economic circumstances. We are all influenced to differing extents by these factors.⁹¹⁵ We are ‘conditioned’ by them. Perhaps the distinction should be whether we take those influences into account and weigh them against one another in *our* decision-making process, or whether we view the decision as having been made for us by those influences. This takes us back to the arguments discussed above relating to abortion and other reproductive choices. These procedures are rarely a ‘choice’ for women, rather women are forced to choose one of two undesirable alternatives. However, this does not mean that these women lack the capacity or ability to decide, but that there should be a greater recognition of the circumstances in which the making of the decision arises.

Dworkin discusses this scenario in greater detail.⁹¹⁶ He deals specifically with the scenario in which a person appears to want to live their life according to the following maxim: ‘Do whatever my mother or my buddies or my leader or my priest tells me to do.’ This person, he theorises, is autonomous.⁹¹⁷ Dworkin elaborates on his idea:

There is... something correct about the belief that obligation is inconsistent with one idea

⁹¹⁵ Cornell, *At the Heart of Freedom* (n 891) 38; Rosalind Petchesky, ‘Reproductive Freedom: Beyond “a Women’s Right to Choose”’ (1980) 5 *Signs: Journal of Women in Culture and Society* 661, 675.

⁹¹⁶ He views interferences with ‘procedural independence’ as detracting from a person’s autonomy: ‘Spelling out the conditions of procedural independence involves distinguishing those ways of influencing people’s reflective and critical faculties which subvert them from those which promote and improve them. It involves distinguishing those influences such as hypnotic suggestion, manipulation, coercive persuasion, subliminal influence, and so forth, and doing so in a non ad hoc fashion. Philosophers... have explored these matters in some detail, but with no finality’, in Dworkin, *The Theory and Practice of Autonomy* (n 40) 18.

⁹¹⁷ *ibid* 21.

of being free. When I bind myself or find myself in a situation in which my options are limited by the existence of the needs of others, I do feel (or, at least it is possible that I might feel) a sense of restraint. After all, one does give up something when one has children or enters certain personal relationships. The freedom that is lost is being able to do whatever is in one's immediate self-interest, or what is most pleasurable or convenient. I might prefer to read a novel than visit an aged relative, and the demands of the situation constrain my will. But this sense of freedom is not considered to be one that ought always to be honoured, precisely because it manifests the kinds of conflicts with other values we have mentioned.⁹¹⁸

The pivotal factor is that 'What is valuable about autonomy is that the commitments and promises a person makes be ones he views as his, as part of the person he wants to be, so that he defines himself via those commitments'.⁹¹⁹ Dworkin uses the following example to illustrate his arguments:

Once faced with a robber there is no way of distinguishing between what the agent really wants to do and what he is forced to do. One has to step back and look at the second-order desires of the agent – his views about his motivations in the situation he faces. Does he mind acting for these particular reasons or not? People resent acting merely in order to retain a status quo against the interference of another agent (threats). They, normally, do not mind acting for the reason that they will improve their situation contingent on their accepting the terms of another agent (offers). To determine, therefore, whether acting for certain kinds of reasons is to be regarded as interfering with the freedom of the agent, we must inquire into the agent's second-order preferences as to acting for different kinds of

⁹¹⁸ *ibid* 25.

⁹¹⁹ *ibid* 26.

reasons. Another way of looking at this, due to Robert Nozick, is to think about the agent's preferences for being faced with certain choices. Other things being equal, rational agents would not make the choice to be faced with the kind of choices that a robber presents them with, but would choose to be faced with the options that, say, an attractive offer poses.⁹²⁰

Dworkin's discussion is particularly relevant to Punjabi women who are surrounded by son preference, as it is arguable that they *choose* to do as they are told.⁹²¹ They grow up, marry into and remain within a culture in which daughters-in-law allow their in-laws and husbands to make certain decisions on their behalf. They know that they will, one day, become a mother-in-law and exert similar power and control over their own sons and daughters-in-law.⁹²² Chapter 6 has demonstrated that certain Punjabi women gain social and familial status through producing sons and that, therefore, it could be argued that they choose to buy into, and to a certain extent encourage, this cycle of control and pressure as they seek to become the powerful mother of a son and, ultimately, mother-in-law. Therefore, whilst their decision-making is heavily influenced by Punjabi social norms and important decisions are often taken on their behalf by their in-laws and husbands, these women *choose* to delegate their decision-

⁹²⁰ *ibid* 155, taken from Robert Nozick, 'Coercion' in Peter Lasslett and Walter Runciman (eds), *Philosophy, Politics, and Society* (4th edn Oxford University Press 1967), 101-136. Wilkinson draws a distinction between the manner in which a mental state has been acquired and the extent to which the holder of that mental state is able to subject it to 'rational critique and reflection, and of changing or losing the beliefs and desires in the light of such reflection'. For Wilkinson, both of these elements may affect the extent to which a belief can be seen as being 'autonomously held', see Wilkinson, *Choosing Tomorrow's Children* (n 304) 237.

⁹²¹ Clearly, as chapter 6 demonstrates, this does not apply to all, or even most, women of Punjabi ethnicity in the UK. This discussion, as stated above, is in relation to those women who operate amongst a community which displays strong son preference. These women are most likely to be those who have recently immigrated from Punjab and are living amongst Punjabi people in the UK who display strong son preference.

⁹²² Leaf describes this cycle of events in the context of Punjabi Sikhs in Leaf, *Information and Behaviour in a Sikh Village* (n 746): 'The tyrannical mother-in-law... is after all but a woman like her [the daughter-in-law's] own mother, and what she must aspire to be as she herself becomes the mother of sons in the course of time', (191). He explains that the daughter-in-law 'gains in power and security with the birth of each son... the wife moves more and more solidly into a position of power and authority within the house and assumes a position of more and more importance in the internal economy of the village. From daughter-in-law in the household, she becomes *ma* [mother], and then *nana* [paternal grandmother]', (189). The operation of this cycle has also been described in Erin P Moore, *Gender, Law, and Resistance in India* (University of Arizona Press 2001), 31.

making. The commitment they make to their husbands and in-laws is *their* own commitment. They define themselves through this commitment as a daughter-in-law, (who is heavily influenced in her decision-making by others, with some decisions being made for her on her behalf), so that they can, through this, achieve their long-term objective of progressing into a mother-in-law, (who heavily influences the decision-making of others and makes decisions on behalf of others). They are ‘acting for the reason that they will improve their situation’. If they were to be offered sex-selection, (highly likely to be paid for by their husband and his family), in order to produce a son, because sons raise their own social status within the family and the Punjabi community, this would be akin to the ‘attractive offer’ mentioned above by Dworkin. They, arguably, would not mind acting in this scenario as they themselves, and not just their in-laws and husband, desire a son.⁹²³ However, it is also arguable that the situation in which some Punjabi women operate steps beyond this social cycle in that they are actually being coerced by their husband, his family and by Punjabi society to produce children until they produce a son. It could be argued that this suggests that if sex-selection for non-medical reasons via PGD were permitted that they would similarly be coerced into undergoing the procedure. Viewed from this perspective, Punjabi society and families take on the guise of Dworkin’s robber, who presents an ultimatum to these women to ‘choose’ to undergo the procedure and produce a son, or to live ‘sonless’ and disgraced. Beauchamp and Childress sum up this position thus:

‘...oppressive socialization and oppressive social relationships can impair autonomy, for instance, through forming an agent’s desires, beliefs, emotions and attitudes and through

⁹²³ It should be noted that Mill disagrees that a person who permanently relinquishes their freedom is acting autonomously, see Mill (n 36) 103. He discusses this in the context of a person choosing to become a slave. The disagreement on this issue between Mill and Dworkin is discussed in chapter 1. However, as will be seen below, Punjabi women do not permanently relinquish their ability to make and to influence decisions. It is a temporary measure which they adopt whilst they are a daughter-in-law, in the hope of becoming a mother-in-law and, thereby, acquiring extensive power and influence within the family.

thwarting the development of the capacities and competencies essential for autonomy'.⁹²⁴

Applying this reasoning, to the extent that the desire for sons amongst certain Punjabi women is the result of oppressive socialization and oppressive relationships with their husbands' and their own families, acting upon that desire does not amount to an autonomous act. This is because the development of their very capacity for autonomous decision-making has been thwarted by society and their families. However, to accept this would be to accept that women who feel forced to undergo an abortion due to the oppression of social expectation and acceptability do not exercise autonomy and choice. This would be to deny them the recognition that the decision to have the abortion was their own, albeit that it was one that they would rather not have had to make. The reality is that there are many scenarios in the medical sphere in which people, (both men and women), have to make very important decisions relating to their bodies, which will have a significant impact on their lives. One example is live organ donation by adults to family members, partners or close friends. The choice in this situation is between: (a) trying to help a loved one to survive by donating an organ, but suffering a great deal of pain and risk to ones short-term and long-term health; and (b) choosing not to donate an organ, and therefore not suffering the pain and risk, but also failing to help the loved one. A person in this situation is likely to be under a high degree of emotional pressure, whether direct or indirect. They may feel pressured by the donee and/or their own, or the donee's, family who desperately want the donee to survive. Potential donors may also place themselves under pressure to make a decision as they will need to balance their desire to remain healthy, physically intact and pain-free, with their own wish for the donee to survive.

⁹²⁴ Beauchamp (n 23) 103.

In many respects, the operation of choice in this context is very similar to that of certain Punjabi women in relation to sex-selection for non-medical reasons. Firstly, both scenarios potentially involve high degrees of emotional pressure being exerted, either directly or indirectly, on the person tasked with making the choice. Secondly, in both scenarios, the person making the choice may have conflicting desires about how to proceed. Finally, in both cases, the situation is not one that the person would *choose* to be faced with. They are thrust into the situation due to their circumstances. If the donor had a true choice, it would be that the donee did not require an organ donation. If the Punjabi woman seeking sex-selection for non-medical reasons had a true choice, it would be that she already had a son, or could be guaranteed a son via a different, easier and cheaper avenue. Nevertheless, the law does not treat people in the former situation as lacking the ability to make a choice by virtue of these three elements, thus prohibiting live adult organ donation. Provided that donors are capable of giving informed consent, they are deemed as being capable of making the choice, albeit that it is a very difficult choice to make, (current safeguards in relation to obtaining consent are discussed below). In the same respect, denying that women make choices in relation to reproductive matters because a small minority face familial and/or social pressure in this regard does not appear to be consistent with other areas of patient decision-making in the medical sphere⁹²⁵. Prohibiting women from making certain reproductive decisions altogether on the basis that their choices may be coloured by the three elements stated above does not, therefore, appear to be legitimate.

There may not be a definitive answer to this in the context of Punjabi women who face extreme pressures to produce a son. Nevertheless, it is difficult to see how removing another

⁹²⁵ Wilkinson makes this point: ‘...while the standard medical ethics model of consent would disallow consents based on extreme and ongoing forms of ‘mind control’... and would similarly disallow consent from someone who, considered as a whole agent, had very low levels of rationality and autonomy... it does not require the complete absence of non-autonomous mental states in the consenter’s motivational set.’ Wilkinson, *Choosing Tomorrow’s Children* (n 304) 238.

‘choice’, (whether genuine or not), from these women assists them in taking control of their own decision-making. As set out above in relation to sex discrimination, until the underlying causes of daughter-aversion are sufficiently reduced, women surrounded by these causes will continue to face differing degrees of oppression.⁹²⁶

(ii) Reproductive Health

The concept of ‘reproductive health’ provides a potential way forward in this context.⁹²⁷ Discussing the issue in terms of health may more accurately reflect the reality of the circumstances of most women who seek to use reproductive technologies.⁹²⁸ How, then, can this be applied to sex-selection for non-medical reasons in the particular context of Punjabi women? The first issue is whether the procedure falls within ‘reproductive health’. ‘Health’ has been defined by the World Health Organization as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’.⁹²⁹ Decisions

⁹²⁶ The degrees differ depending upon the strength of the factors sustaining son preference and daughter-aversion amongst the community within which they operate.

⁹²⁷ In the context of abortion, Fox points out that a focus on reproductive health could further underpin the medicalization of reproduction, Fox n 913 100. Rowland sees increased medicalization of the reproductive process as having potentially adverse consequences for women and raises the possibility that the language of ‘choice’ and ‘freedom’ may result in the medical profession being afforded even more control within the sphere of reproductive technology and that this may ‘eventually entrap women and limit their choice to say ‘no’ to increased male control of the reproductive process’, in Robyn Rowland, ‘Motherhood, Patriarchal Power, Alienation and the Issue of ‘Choice’ in Sex Preselection’ in Gena Corea, Roberta Duelli Klein, Jalna Hanmer, Helen B Holmes, Betty Hoskins, Madhu Kishwar, Janice Raymond, Robyn Rowland and Roberta Steinbacher, *Man-Made Women, How New Reproductive Technologies Affect Women* (Hutchinson and Co Publishers Ltd 1985), 74. However, Fox argues that this medicalization of reproduction may actually have assisted women. This is because framing the issue in terms of the health of a woman has made it easier to rule out ‘third party’ claims, because it can more readily be seen as an issue to be resolved between the woman and her medical advisers, Fox n 913 93. Further, recent statistics suggest that it is misleading to argue that the medical sphere is still a male-dominated arena. Statistics from 2007 reveal that approximately 40 per cent of all doctors are female, see Royal College of Physicians, ‘Women and Medicine, the Future: Summary of Findings from Royal College of Physicians Research’ (June 2009), xii <www.rcplondon.ac.uk/sites/default/files/documents/women-and-medicine-summary.pdf> accessed on 28 August 2013. In 2007, the percentage of female GPs and consultants in the NHS in general practice was 42 per cent and the percentage in Obstetrics and Gynaecology was 33 per cent, (46). It was concluded that soon after 2017, women will probably constitute the majority of NHS doctors, (39). Therefore, even if a focus on reproductive health could encourage further medicalization of reproduction, this does not necessarily translate into further male control of the process.

⁹²⁸ The idea of applying ‘reproductive health’ in this context is taken from Noel Whitty, ‘The Mind, the Body and Reproductive Health Information’ (1996) 18 *Human Rights Quarterly* 224. Whitty suggests that reproductive health may be more successful in securing access to appropriate services than the ‘rights’ discourse, (225 onwards).

⁹²⁹ WHO, ‘Basic Documents: Constitution of the World Health Organization’

relating to which embryo should be implanted whilst undergoing IVF appear to fall within the ambit of reproductive health. They concern the physical body of the particular woman in question in that the decision relates to which one, (two, three, or more), of the embryos, if any, should be implanted within her uterus instead of any others. This also concerns the mental and psychological health of that woman, because the outcome of the implantation of any given embryo could significantly psychologically affect her. The ramifications of having a girl where a boy is desired for certain women of Punjabi ethnicity within the UK could be severely detrimental for the mental and psychological health of that woman. Therefore, denying the procedure clearly has the potential to impact upon reproductive health.

Is, then, the reproductive health of Punjabi women helped or hindered by sex-selection for non-medical reasons? Reproductive health can be separated into two facets: physical health and mental health. In relation to physical health, the medical procedures involved in sex-selection for non-medical reasons are both helpful and detrimental for women. They assist infertile women as they enable their bodies to become pregnant. They are detrimental to women as there are several health risks attached to the procedures. However, the detriments to physical health attached to the procedure arise in relation to all forms of IVF. There has been no suggestion from the HFEA, nor from those participating in the debates leading up to the current law on sex-selection, that IVF will be prohibited in future due to these risks. Similarly, very little weight was placed during the debates on any suggestions that the physical risks of sex-selection for non-medical reasons gave rise to any form of discrimination against women.⁹³⁰ Therefore, physical health will not be discussed further.

<<http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf>> accessed on 8 July 2012.

⁹³⁰ The physical safety of women who undergo PGD and other IVF procedures was discussed in *Choice and Responsibility* (n 95) 14, para 43; 15, paras 44-48. However, there was no suggestion by the HFEA that IVF procedures should be banned because of these risks. Concerns relating to the health of women were very seldom raised during the parliamentary debates on the 2008 Act. One of the isolated instances was the mention by Mr Burrowes that 'Some of those other concerns relate to the woman. As has been said in previous debates there is a

The second facet of reproductive health in the context of sex-selection is mental and psychological health and well-being. It is arguable that prohibiting the procedure is potentially very damaging to the mental and psychological health of Punjabi women. This is because it would deprive them of the opportunity to try to produce a son via PGD. The devastation caused to certain Punjabi women of not being able to produce a son has been stressed in chapter 6. The permissibility of the procedure also has a deeper significance for psychological and mental health. As has been discussed above, choice and freedom is something which may not be openly and socially available to certain of these women. Thus, permitting the procedure in the name of ‘reproductive liberty’ could well be a fallacy. However, prohibiting the procedure in the name of ‘protecting’ women from coercion could prove to be even more damaging. It could be seen as affirming the belief, traditionally and generally present in Punjab, of Punjabi women being weak, vulnerable and not responsible enough to make their own decisions.⁹³¹

This is damaging for at least two reasons. Firstly, the nature and extent of choice and autonomy possessed by women of Punjabi ethnicity appears to generally evolve in two ways. The first is that as new generations are born in the UK, they appear to claim more and more

significant risk of ovarian hyperstimulation syndrome to the woman who undergoes the procedure. As the ovaries are stimulated to extract eggs, the ovulated ovaries release increased amounts of hormones into the abdominal cavity, causing it to become permeable’, in HC Deb 19 May 2008, vol 476, col 95. This was very quickly dismissed by Dr Harris who stated, ‘Surely that is up to the woman. There is informed consent in these procedures’, (col 95).

⁹³¹ Cornell discusses the impact of denying abortion upon a woman’s self-image. The availability of abortion enables women to view themselves as ‘whole’. They are faced with a situation, (an unwanted pregnancy) which has resulted from the inability to biologically control their own bodies. However, abortion provides a means through which women can control the impact that the unwanted pregnancy has had upon their bodies. To deny this would be to fragment women into body parts, certain of which they have no control over, (namely, the uterus). This would be highly damaging to the self-image individuals have: ‘What is being protected is not any actual power to control, but the need to retain some image of coherence in spite of the loss of actual control which threatens a return to a raw, fragmentary experience of the body’, in Cornell, *The Imaginary Domain* (n 914) 67.

reproductive freedom.⁹³² Therefore, whilst one generation or sub-group of Punjabi ethnicity women may not be losing much in the way of ‘freedom’ due to the ban, others would be. As Wilkinson explains, the problem with the vitiated decision-making of certain Punjabi women must be ‘weighed against the restriction of other women’s reproductive choice that banning sex-selection would entail’.⁹³³ It should also be noted here that, even amongst Punjabi-born women, there are differing degrees of autonomy and decision-making ability, which appear to evolve during their lives. Not all of these women are coerced and subservient. There are those who take control of their own decision-making and actually manipulate their husbands and in-laws. Further, there is evidence to suggest that wealthy and educated women are seeking sex-selective procedures in northern-India,⁹³⁴ indicating that certain Punjabi-born women are not coerced into undergoing such procedures through weakness or naivety. For these women, the notion of ‘protection’ could stifle their objectives by removing an option which they could otherwise have exercised for their own benefit. The second is the daughter-in-law to mother-in-law transition. Punjabi women can only make this much desired transition through producing a son. The prohibition deprives women of the ability to choose to try to produce a son through PGD and, thus, deprives them of this avenue of growing in power and taking control of the family.

Secondly, Cornell argues in the context of abortion that whilst reproductive decision-making may not necessarily be justified ‘as an “abstract right to choose”’, it should be defended ‘as a fundamental condition of one’s ability to imagine’.⁹³⁵ For Cornell, the ability to imagine is closely linked to the dignity which should be seen as being possessed by all women. This

⁹³² See chapter 6.

⁹³³ Wilkinson, *Choosing Tomorrow’s Children* (n 304) 236.

⁹³⁴ Some studies have found that there are higher sex ratio imbalances amongst educated women in India. Guilmoto, John and others and Bhat and Xavier have all argued that education amongst women in the north of India actually increases gender bias. See: Guilmoto, ‘Characteristics of Sex-Ratio Imbalance in India’ (n 435) 7; John (n 599) 55; Mari Bhat, ‘Factors Influencing the Use of Prenatal Diagnostic Techniques’ (n 702) 151. However, there are studies that contradict this, as have been set out in the footnotes to chapter 6.

⁹³⁵ Cornell, *The Imaginary Domain* (n 914) 67.

idea, and its relevance to the present discussion, requires further elaboration. Cornell achieves the dignity of all women through the 'imaginary domain'. The imaginary domain is,

the moral and psychic right to represent and articulate the meaning of our desire and our sexuality within the ethical framework of respect for the dignity of all others... we all have a self-image that we form through our identifications with others as they have imagined and continue to imagine us. These identifications color the way in which we envisage ourselves, but do not determine the reach of our imagination in dreaming up who else we might be.⁹³⁶

The imaginary domain is a space within one's own imagination in which one has the freedom to determine oneself and begin to fulfil one's own desires. She acknowledges that it may not be possible to actually fulfil these desires in reality, (as is especially true of Punjabi-born women). However, she writes:

Desire is born with our birth subjects. Therefore, *in principle*, it is not something that can be taken away from us. In reality, of course, we might find it impossible to claim. But the fact that, *in principle*, we can claim it is the basis for our dignity and our freedom to undertake this struggle without being further hindered by outside forces such as patriarchal institutions.⁹³⁷

Cornell's concept can be criticised on the basis that where theoretical autonomy, rights and/or choice cannot be exercised in practice, it is pointless.⁹³⁸ Whilst this criticism is generally

⁹³⁶ Drucilla Cornell, *Between Women and Generations, Legacies of Dignity* (Palgrave 2002), 29.

⁹³⁷ *ibid* 58.

⁹³⁸ This argument was considered in the Court of Appeal case of *Re A (Conjoined Twins: Medical Treatment)* [2001] Fam 147, which dealt with whether conjoined twins, Jodie and Mary, should be separated even though

meritorious, it cannot be applied in its entirety to Punjabi women. It is not the case that Punjabi women will never be able to exercise their theoretical autonomy and choice. As has been discussed above, firstly, certain (albeit exceptional) Punjabi-born women are actively involved in decision-making. Secondly, even those who are not, actively aspire to be able to exercise this autonomy through becoming the mother of a son and, thereafter, a mother-in-law. It is likely that she will achieve this status in practice. She will then become a very powerful figure within her family. She will exercise not only her own autonomy, but also make decisions on behalf of others. Therefore, the imaginary domain takes on a heightened importance for those women who cannot at present, in their everyday lives, fulfil their desires as it creates a space in which they can begin to develop their ability to take control of decision-making. Thus, it grants them the space to grow into someone who can, and will, fulfil their desires in practice. Nevertheless, it is acknowledged that there is no guarantee that they will acquire such power, as it is dependent upon the production of a son and the marriage of that son to a woman who is willing to comply with this cycle. Further, even if such power is acquired it will be after a number of years. The entire cycle of power could be criticised as being detrimental to women, as the power acquired by the mother-in-law is based in part on her control over another woman's decision-making, that being her daughter-in-law. The argument in this chapter is not that this system is ideal. However, it is better than the alternative, which is to legally deny women the procedure, as this could have deeper implications for the way in which these women attribute status and responsibility to their own selves.

that would lead to the inevitable death of Mary, the weaker twin. In addressing Mary's best interests it was stated that, 'The only gain I can see is that the operation would, if successful, give Mary the bodily integrity and dignity which is the natural order for all of us. But this is a wholly illusory goal because she will be dead before she can enjoy her independence and she will die because, when she is independent, she has no capacity for life', (38). Nevertheless, it was concluded that although Mary's life was 'desperate', it still had 'its own eliminable value and dignity', (43).

Responsibility for decision-making is a central aspect of the imaginary domain and is a large part of its significance and its link to the ‘real’ world.⁹³⁹

As part of our moral awakening that we *do* make judgments and evaluations, moral freedom is a practice of self-responsibility we *must* assume. When we make these moral judgments and evaluations, we define who we are morally. We exercise our freedom as a narration of our self-responsibility that renders the value-conferring moment, in our actions and judgments, intelligible as our being called upon to justify ourselves to others with reason and rationality.⁹⁴⁰

It is through the recognition that we must take responsibility for our own decisions that we are attributed the status of someone who can be responsible, either through being held responsible or by being seen as a responsible being. For Cornell, having this status is part of personhood.⁹⁴¹ This is extremely significant for Punjabi women. ‘Choice’ is something which certain Punjabi women may not have, as they are likely to be surrounded by the degradation of females and it is this degradation which lies at the heart of son preference and daughter-aversion. In a sense, the imaginary domain is likely to be one of the only havens these women have. This haven of imagining oneself as one wants to be is the foundation of their future ability to take control. It involves the recognition that Punjabi women can be responsible for their own reproductive decision-making even though their present circumstances may deprive

⁹³⁹ ‘Respect for our dignity and our imaginary domain allows us to individuate enough so that we can claim our desire and take effective responsibility for our lives’, in Drucilla Cornell, *Between Women and Generations* (n 935) 31.

⁹⁴⁰ *ibid* 61.

⁹⁴¹ ‘A person who is recognized as politically free in the way I have described is by definition individuated enough to represent herself as the source of evaluation of her life plans and to make her claim upon society without appealing to her social position or her duties to society. A just society would then further recognize that as a matter of liberty of conscience, the boundaries of individuation become the person’s to “draw”. The “space” in which those boundaries are personalized and represented is the sanctuary of the imaginary domain. Our bodies and our sex should be ours to claim – certainly, if women’s bodies become dispositive of the denial of personhood, then we are effectively banished to the realm of the phenomenal... To be banished to the realm of the phenomenal is to be rendered socially dead’, in Cornell, *At the Heart of Freedom* (n 891) 21, also see 20.

them of this.⁹⁴²

We can see that Punjabi-born women do eventually take control within the family environment and socially in two main ways. The first appears to have happened gradually through second and third generation immigrants. Punjabi women coming to the UK and having the opportunity to work outside of the home could have led to financial exploitation of them by their families, given the controlled ‘captive’ state in which many daughters traditionally exist in Punjab. However, as Bhachu’s research has found, this has generally been a very empowering and positive experience through which many women of Punjabi ethnicity have financially excelled in their own right,⁹⁴³ leading to attempts at controlling them at home or once married becoming less effective.⁹⁴⁴ There is no evidence to suggest that the granting of such responsibility for decision-making and financial autonomy has had a detrimental effect on Punjabi women, nor that it has been used as an instrument of coercion. Secondly, autonomy and control over decision-making can be gained through the power that the mother-in-law possesses once she has grown from being a daughter-in-law into a mother then into a mother-in-law, (which is more applicable to first generation immigrants who have more recently moved to the UK). This demonstrates that women of Punjabi ethnicity are capable of taking control and making decisions through a process of growth where they are provided the opportunity to re-define themselves as someone responsible enough to make decisions for themselves and on behalf of others. Viewed in this way, the procedure appears to be less about the destruction and degradation of females and more an instrument of gaining power and/or an exercise of power already gained.

These processes of growth are central to raising daughter-worth, as they challenge the

⁹⁴² *ibid* 169.

⁹⁴³ Bhachu, ‘Multiple Migrants’ (n 847) 346-47.

⁹⁴⁴ She discussed this in the context of financial control and control over dowries, *ibid* 350-53.

portrayal of women as too weak and irresponsible to make decisions. This is reflected by the fact that the prevalence and strength of son preference either has, or is, dying out amongst Punjabi ethnicity women in the UK. This process is linked to the relative absence of the factors leading to, and sustaining, son preference in the UK. Financial independence and less of an emphasis on the traditional practices of dowry appear to have helped to dismantle the image of these women as burdens on their families. They generally shoulder much more responsibility for their own selves, lives and maintenance, than is the case in Punjab. This self-responsibility appears to be a significant factor in the status of UK born Punjabi ethnicity women having been gradually attributed a higher status within the Punjabi community. This is because it helps to combat the image of the ‘weak’ daughter in need of protection and financial support, which lies at the heart of son preference. To remove the possibility of having PGD for non-medical sex-selective purposes from women could be seen in a number of ways, for example: it could be seen as *depriving* women of a choice relating to their own bodies; it could be seen as *protecting* women from having to make, or being forced into making, a very difficult decision; it could be viewed as denying that women should bear the *responsibility* for making such a decision; or it could be seen as merely removing a type of medical procedure which is deemed by society, or the state, as being *unacceptable*. Central to all of these ways of viewing a prohibition of sex-selective abortion is the belief that whether or not to undergo an abortion, for the reason that the woman does not want to bring a child of a particular sex into existence, is not a decision that should be left to a woman to make. This assertion cannot escape the conclusion that women are not responsible enough to regulate and govern that part of their lives and bodies. Their autonomy does not ‘stretch’ that far.⁹⁴⁵ This belief is potentially extremely damaging to women because the attribution of responsibility is

⁹⁴⁵ Lee has argued a similar point in the context of abortion, that the whole ethos of the Abortion Act’s requirement that abortion may only be carried out where two doctors agree in good faith that it should be is that ‘women are not best placed to make the decision to have an abortion... By denying women the freedom to decide whether to continue or end a pregnancy, the 1967 Act denies women their autonomy’, Ellie Lee, ‘Tensions in the Regulation of Abortion in Britain’ (2003) 30 *Journal of Law and Society* 532, 535.

an important part of how a person perceives themselves and how they are perceived by others.⁹⁴⁶ These views are particularly damaging to women of Punjabi ethnicity, (those women who operate within a community that has retained any degree of son preference), when viewed against the background of son preference and daughter-aversion. The belief that women are somehow worth less than men, are in need of protection and cannot be responsible for themselves, (morally and/or financially) is at the heart of son preference. To ban the procedure could be interpreted as an affirmation of this belief. It would be confirmation that women are not responsible enough to make this decision. Far from helping to tackle the beliefs underlying son preference, it could actually confirm and bolster them. In the long-term, this would be more likely to encourage the distaste for girls and the desire for sons and therefore increase the demand for sex-selective procedures.

Viewed in this way, any prohibition or restriction on the procedure not only deprives Punjabi women of elevating daughter-worth through exercising their own autonomy and/or pursuing autonomy-building strategies, it actually affirms and bolsters the basis of their degradation in the first place: namely the belief that they are incapable of self-responsibility and self-regulation.

(iii) Detriments of Additional Choice

The other potential problem is that even if Punjabi-born women should be seen as able to exercise choice in reproductive decision-making, the availability of more choice is not necessarily a positive attribute. The idea of choice as a burden originates from the work of Sartre. He theorises that it is impossible to ever escape choice, even in passivity. Everything

⁹⁴⁶ Sheldon argues that the restrictions on abortion have the effect that women are portrayed as unable to make 'important decisions in a serious and reflective way', which is damaging to the perception of women. See Sally Sheldon, 'The Abortion Act's Paternalism Belongs to the 1960s' *The Guardian* (22 March 2012) <<http://www.guardian.co.uk/law/2012/mar/22/abortion-act-needs-reform>> accessed on 25 August 2013.

that happens to a person, good or bad, is a result of choices that person has made, whether those choices were to act or to do nothing.⁹⁴⁷ This has been termed the ‘tyranny of choice’.⁹⁴⁸

This idea has also been discussed by Dworkin. He sets out a number of detriments of having a greater number of choices. Firstly, there are ‘decision-making costs’. He outlines several ‘costs’ of making decisions such as: (a) the costs of gathering sufficient information to enable the making of an informed choice. The more serious and complex the choice is, the more difficult it is to obtain the information required to make that choice and the higher the decision-making costs become; (b) the effort and time one must invest in making the actual decision;⁹⁴⁹ and (c) the ‘psychic costs’ of decision-making, such as subsequently questioning oneself as to whether the decision made was the correct one.⁹⁵⁰

Secondly, he notes that the responsibility that one must take for one’s own decision is a detriment. In particular, the existence of a choice attracts responsibility not only in relation to making a choice but also for failing to make a choice. Alongside this is the social and legal pressure ‘make “responsible” choices’.⁹⁵¹

⁹⁴⁷ ‘...everything which happens to me is *mine*... in addition the situation is *mine* because it is the image of my free choice of myself, and everything which it presents to me is *mine* in that it represents me and symbolizes me... Thus there are no accidents in a life; a community event which suddenly bursts forth and involves me in it does not come from the outside. If I am mobilized in a war, this war is *my* war; it is in my image and I deserve it. I deserve it first because I could always get out of it by suicide or by desertion; these ultimate possibilities are those which must always be present for us when there is a question of envisaging a situation. For a lack of getting out of it, I have *chosen* it. This can be due to inertia, to cowardice in the face of public opinion, or because I prefer certain other values to the value of the refusal to join in the war... Any way you look at it, it is a matter of a choice. This choice will be repeated later on again and again without a break until the end of the war... If therefore I have preferred war to death or to dishonour, everything takes place as if I bore the entire responsibility for this war’, in Jean-Paul Sartre, *Being and Nothingness* (Washington Square Press 1943), 708-709.

⁹⁴⁸ Barry Schwartz, ‘The Tyranny of Choice’ (2004) *Scientific American* 71, 74.

⁹⁴⁹ Dworkin, *The Theory and Practice of Autonomy* (n 40) 66.

⁹⁵⁰ *ibid* 67.

⁹⁵¹ *ibid*. He goes on to consider the example of amniocentesis allowing the discovery of genetic defects in fetuses and the choice of abortion thereafter: ‘Now, both in their own mind and in the minds of those who are aware of their decision, they must assume responsibility for the correctness of the choice. The defective child – if they choose to bear it – can no longer be viewed as inevitable bad luck or as an act of God or as a curse... more choices bring in their train more responsibility, and that these are costs that must be taken into account’, (67-68).

Thirdly, and of great relevance to sex-selection, he discusses the ‘pressure to conform’ that the availability of a choice may provoke.⁹⁵² He notes several examples of particular relevance here: (a) he asks us to ‘...consider the social pressures that are likely to be exerted on parents to produce one sex rather than the other (the grandparents who always wanted a little girl, or the community that needs more soldiers)’;⁹⁵³ (b) he cites the social pressures upon couples to co-habit arising out of the growing social acceptance and expectation of it; and (c) he notes that where a law prohibits a procedure, this may ‘free’ those who might otherwise have undergone that procedure ‘from the expectations and pressures of others’.⁹⁵⁴

This could be applied to sex-selection for non-medical reasons as: (a) certain Punjabi women are subjected to high levels of familial pressure to produce a son; and (b) the permissibility of the procedure could potentially make it possible to have a son where this possibility did not exist before. This could make having only girls even more socially unacceptable, thus making the situation of women without sons even more unbearable. It could be argued, therefore, that (c) the prohibition actually frees these women from the pressures to produce a son via PGD that would otherwise ensue. This idea has also been explored from a psychological perspective by Schwartz.⁹⁵⁵ He argues that if a choice, such as sex-selection for non-medical reasons, becomes available it will become progressively more acceptable and used with greater frequency.⁹⁵⁶ The fact that there is a choice means that there is a choice to be made. For Punjabi women, it may mean that the ‘choice’ is used as an instrument of coercion

⁹⁵² *ibid* 68.

⁹⁵³ *ibid*.

⁹⁵⁴ *ibid* 69.

⁹⁵⁵ Schwartz, ‘The Tyranny of Choice’ (n 947) 72; Schwartz, *The Paradox of Choice* (n 417) 120.

⁹⁵⁶ ‘In 1973, 13 per cent of Americans thought of air-conditioning in their cars as a necessity. Today, 41 per cent do. I know the earth is getting warmer, but the climate hasn’t changed that much in thirty years. What has changed is our standard of comfort’, in Schwartz, *The Paradox of Choice* (n 417) 169. However, it must be noted that these detriments of choice effects most acutely those termed as ‘maximizers’, ‘those who always aim to make the best possible choice’ and accept only the best outcome, (77), as opposed to ‘satisficers’, ‘those who aim for “good enough,” whether or not better selections might be out there’, (93). Additional choices are less likely to adversely affect the satisficer as the satisficer does not feel compelled to investigate all of the options, (93).

through family pressure. Some women might prefer it not to be an option that they could be expected or pressured into choosing. The question is whether it would be better for them not to have to make that choice, (because the unlawfulness of the procedure removes it as an option, and women subject to pressure to use it may welcome this as a ‘protection’).

There are several reasons to doubt this. Firstly, the pressure to conform and instrument of coercion arguments miss the crucial point that these women will face extreme pressure to produce a son whether the procedure is available or not. One way or the other, they will be blamed for producing daughters where sons are desired.

Secondly, the availability of the procedure forcing women to have to make a choice brings us back to the argument above, that the ban fails women because, far from considering the fundamental issue of why girls are so de-valued amongst certain parts of the Punjabi community, it actually appears to affirm the beliefs under-pinning daughter-aversion. If the worth of women is not raised, restrictions on PGD will simply lead to increased pressure for women to undergo other sex-selective procedures. If it is found to be substantiated, the sex-selective abortion scandal illustrates that if son preference persists, people will find ways around restrictions to get what they want. There will always be a way to ‘achieve’ a son. If there is a real and widespread problem with son preference, surely the state is under a duty to educate and assist families. If it fails to do so it cannot legitimately employ restrictions on liberty as a safety net for its own deficits.

Thirdly, there are ways in which to protect the ability to make informed decisions, which already form part of clinical practice in the UK. Wilkinson cites the example of the safeguards

in place to protect organ donors against giving consent under coercive circumstances.⁹⁵⁷ It is acknowledged that such systems are not perfect and that certain cases of coercion would proceed undetected. However, this is true of many clinical procedures which are not prohibited on the basis of potential coercion.⁹⁵⁸ There is no reason to believe that sex-selection would be more problematic than, for example, tissue donation following saviour sibling selection, which is lawful at present.

Finally, Dworkin sets out a number of reasons why greater choice can be a positive attribute. Firstly, he acknowledges that it may be ‘perfectly rational’ for human beings to want to retain their ability to choose in given situations even though they may have chosen not to have such choices in the first instance.⁹⁵⁹ Secondly, he does not believe that the state is best and most legitimately placed to limit choice. For example, it may be that administrative costs are most appropriate.⁹⁶⁰ This clearly applies to sex-selection, which is a very expensive procedure. Dworkin also notes several aspects of the ‘value of choice’. Firstly, increased choices increase the chance that people get what they want.⁹⁶¹ This is especially true of Punjabi women who seek sons via sex-selection. Secondly, he argues that for some people, it is the ability to exercise choice that produces a feeling of satisfaction.⁹⁶² Thirdly, he acknowledges that engaging in the process of making choices may be character-building. For example, self-confidence may be built up through having to make choices rather than remaining passive.⁹⁶³ Finally he acknowledges that, ‘What makes a life *ours* is that it is shaped by our choices, is

⁹⁵⁷ Human Tissue Authority, *Code of Practice: Donation of Organs, Tissue and Cells for Transplantation (Code 2)* (2006) <www.hta.gov.uk/_db/_documents/2006-07-04_Approved_by_Parliament_-_Code_of_Practice_2_-_Donation_of_Solid_Organs_200607133233.pdf> accessed on 27 August 2013. See Wilkinson, *Choosing Tomorrow's Children* (n 304) 236.

⁹⁵⁸ Wilkinson makes the point that ‘(with robust consent regulations in place) sex selection would be no more problematic than many other aspects of health care...’ *ibid.*

⁹⁵⁹ Dworkin, *The Theory and Practice of Autonomy* (n 40) 77.

⁹⁶⁰ *ibid.*

⁹⁶¹ *ibid.* 78.

⁹⁶² *ibid.* 79.

⁹⁶³ *ibid.*

selected from alternatives, and therefore choice is valued as a necessary part of a larger complex'.⁹⁶⁴

The issue which we keep coming back to, and is again relevant here, is that it may be that certain Punjabi women do not exercise reproductive choice in any case. Nevertheless, this does not necessarily justify curtailing the imaginary domain. The imaginary domain and the freedom element upon which it is based entails responsibility, as discussed above. It involves recognition that women are responsible for their own determination. To deny this is to deny personhood to an extent. There is a very real argument for employing the concept of 'responsibility' in the context of sex-selection for non-medical reasons. Parental responsibility is at the heart of family law. There has been a huge focus on the welfare of the child, which has been imported from family law into this 'pre' family law context in order, rightly or wrongly, to vet potential parents. There is no reason why a similar focus should not be placed on parental responsibility in this context.⁹⁶⁵ It is difficult to assess the welfare of a child in isolation from parental responsibility. As a matter of logic, the two will roughly correlate. Generally, the more responsible a parent, the greater the child's welfare will be. The welfare of any given child is likely to be damaged in the absence of a carer who has assumed parental responsibility. The law guarantees that the child's birth mother is granted, (or burdened with), parental responsibility by virtue of giving birth to the child. It does not attach automatically to any purported father, (unless the birth mother has married the father, or registered him on the child's birth certificate). It is pivotal that someone is responsible for the child. If the law can impose this, why can women not claim it themselves? They are automatically deemed by the law to be responsible for any children to whom they give birth. They are responsible for these children unless those children are adopted by someone else. Even where these children are

⁹⁶⁴ *ibid* 81.

⁹⁶⁵ Parental responsibility in the context of reproductive technologies is discussed by Steinbock and McClamrock in Steinbock, 'When is Birth Unfair' (n 323) 17.

taken into care by the Local Authority, the state will merely *share* responsibility with the mother or parents. The mother will rarely lose the status of having parental responsibility. Therefore, the law in theory accepts that women, (and not the state), should be automatically deemed to be responsible for any children that they have. When translated into practice, this adds weight to permitting the procedure, because if we place emphasis on the responsibility of women for their actions and choices, we are attributing them the ability to know and to decide what is best for themselves and any children that they may have. They know best. They can determine their own reproductive role and the manner in which they reproduce and most importantly, they can be deemed *responsible* for the resulting children. As argued above, such a recognition is vital to raising daughter worth. It is consistent with the imaginary domain and dignity. It is also consistent with an emphasis on reproductive health, as it reflects the reality of most women's lives. Women who choose to have children, and in particular those who invest heavily emotionally and financially in producing a child, will be responsible for the resulting children throughout their childhoods and beyond. They will support them financially and emotionally. In the highly unlikely event that there is evidence that they are likely to abandon this responsibility, s 13(5) provides an existing mechanism through which the birth of such a child can be prevented. In the exceptionally unlikely event that the woman leaps over s 13(5) and produces a child whom she later harms, there are already extensive provisions in place by virtue of the Children Act 1989 to protect the resulting child.⁹⁶⁶

Decision-making itself is a pivotal part of autonomy and dignity. It is the power over oneself – the power to shape and develop oneself. Mill views decision-making on the basis of one's own judgement and opinions as a duty that each individual has, even where others may see

⁹⁶⁶ It must be noted that this is, in part, idealistic. Not all women are capable of being responsible for their children and women should not bear the sole burden of parental responsibility unless they choose to. The former has been responded to above by reference to s 13(5) and the Children Act. The latter has no bearing on the arguments advanced in this chapter. It is matter for the mother and the father of the child to arrange. The state need have no involvement in it.

the decision as ‘erroneous’.⁹⁶⁷ To prohibit such decision-making would not only stifle social development through limiting innovation and variety,⁹⁶⁸ but it would be taking decision-making away from those best placed to make the judgements involved in such decision-making.⁹⁶⁹ This could result in outcome which is not best for the individual as she herself judges it to be and a hindrance to her personal development:

... it is the privilege and proper condition of a human being, arrived at the maturity of his faculties, to use and interpret experience in his own way. It is for him to find out what part of recorded experience is properly applicable to his own circumstances and character. The traditions and customs of other people are, to a certain extent, evidence of what their experience has taught *them*... The human faculties of perception, judgement, discriminative feeling, mental activity, and even moral preference, are exercised only in making a choice.⁹⁷⁰

The more important a decision, the more fundamental it is that the process is not tampered with in terms of coercion and manipulation.⁹⁷¹ Decisions relating to health are of extreme

⁹⁶⁷ ‘Judgement is given to men that they may use it. Because it may be used erroneously, are men to be told that they ought not use it at all? To prohibit what they think pernicious, is not claiming exemption from error, but fulfilling the duty incumbent on them, although fallible of acting on their conscientious conviction. If we were never to act on our opinions, because opinions may be wrong, we should leave all our interests uncared for, and all our duties unperformed,’ in Mill (n 36) 23. It should be remembered that this is subject to the harm principle.

⁹⁶⁸ ‘As it is useful that while mankind are imperfect there should be different opinions, so it is that there should be different experiments of living; that free scope should be given to varieties of character, short of injury to others; and that the worth of different modes of life should be proved practically, when any one thinks fit to try them. It is desirable, in short, that in things which do not primarily concern others, individuality should assert itself. Where, not the person’s own character, but the traditions or customs of other people are the rule of conduct, there is wanting one of the principal ingredients of human happiness, and quite the chief ingredient of individual and social progress’, in Mill (n 36) 63.

⁹⁶⁹ ‘If a person possesses any tolerable amount of common sense and experience, his own mode of laying out his existence is the best, not because it is the best in itself, but because it is his own mode... The same things which are helps to one person towards the cultivation of his higher nature, are hindrances to another... Such are the differences among human beings in their sources of pleasure, their susceptibilities of pain, and the operation on them of difference physical and moral agencies, that unless there is a corresponding diversity in their modes of life, they neither obtain their fair share of happiness, nor grow up to the mental, moral, and aesthetic stature of which their nature is capable’, in Mill (n 36) 75-76. See also 85, 93 and 121.

⁹⁷⁰ Mill (n 36) 64-65.

⁹⁷¹ This notion has been recognised by Feinberg in the context of the harm principle: ‘the more *valuable* (useful)

importance as they determine whether, when, what and to what extent, things are done to our own bodies and minds. Interfering with a woman's ability to put into practice that which she deems appropriate and the best, or least worst, course of action for herself, whether or not she has taken into account those around her, is very damaging. This could be criticised for being overly optimistic or even naive in the context of certain women of Punjabi ethnicity, given the prevalence of patriarchy, oppression and coercion. But how does the addition of further coercive barriers assist them? This is not to argue that the law should never impose restraints on a woman's ability to achieve her objectives in relation to her own body and healthcare, but that the law should fully and properly consider the impact that further restrictions are likely to have. This is particularly true when considering the Punjabi culture and society. Where there is evidence of sex discrimination operating, most notably amongst this community, the underlying causes of it should be tackled. This cannot be achieved through prohibition of its manifestations and effects, but through addressing the portrayal of women as weak and not responsible and independent enough to engage in decision-making.

There is also a more general argument, reminiscent of the third sex discrimination objection set out in section (a), which is that sex-selection amongst Punjabi women would provide a tool for females being generally treated as worthless and degraded by the fact that they are not seen as even worthy of coming into existence. It is undeniable that it could well be used in that way. However, as Cornell argues in the context of sex-selective abortion in India,

... if we seriously contemplate protecting a woman's own imagining of the meaning of her abortion, then it would seem that we must include the woman who imagines her female fetus as so devalued that she would rather it were not born. It is also arguable that

the dangerous conduct, both to the actor and to others, the more reasonable it is to take the risk of harmful consequences...', in Feinberg, *The Moral Limits of the Criminal Law* (n 22) 216. Feinberg's balancing exercise has been set out in chapter 1.

such practices in law reflect the systematic denial of the equivalent value of the feminine within sexual difference, i.e., that the woman who imagines her female fetus as being of lesser value than a male fetus does so because the feminine imaginary and the symbolization of the value of the feminine within sexual difference has almost been foreclosed.⁹⁷²

Perhaps, rather than employing coercion against women who are suspected of creating, encouraging or ‘colluding’ with perceptions that their own gender is somehow worth less than the male gender, these women should first be *recognised* by the state as not being worth any less by virtue of their gender.⁹⁷³ They should be recognised as being responsible for their own actions and decisions, whether developed under influence of culture and family or otherwise, thus helping to tackle the foundations of sexist views about women, rather than merely its consequences. This is not a solution without flaws and potential adverse consequences for a minority of Punjabi women. However, it is better than the alternative. Women of Punjabi ethnicity in the UK, whether first, second or third generation immigrants, have shown an ability, over time, to take control of economic, reproductive and other types of decision-making, albeit in different ways. There is no reason to believe that attributing them the responsibility for their own reproductive health will not, in the longer term, lead to them taking control of such decision-making.

(c) Conclusions

In the vast majority of cases there is very little difference in the exercise of what has been

⁹⁷² Cornell, *The Imaginary Domain* (n 914) 86.

⁹⁷³ A similar point is noted by Cornell in the context of abortion, *ibid* 87.

termed reproductive liberty between women of Punjabi ethnicity and the general female UK population. However, in recent decades the extent to which this liberty can realistically be framed in terms of rights and choice has been questioned, as in certain situations women are faced with an option between a number of unsavoury alternatives, none of which they would actively 'choose' in an ideal world. For a small section of Punjabi women, mostly Punjabi-born women, the possibility of sex-selection for non-medical reasons presents an even more dismal set of 'options'. They are presented with a choice between being coerced by the state, or being coerced by their own family. Family coercion is often much subtler but more ingrained. In some senses it is more sinister and overbearing than state coercion. But at least this is something that the woman herself can seek to limit and, to an extent, use to her benefit. An example of this is the transition from daughter-in-law to mother-in-law. This cycle is not ideal, but it offers an opportunity for these women to take control of their lives eventually in some form. State coercion does not. The prohibition of the procedure rules out control in the arena of sex-selection for non-medical reasons full stop. It is difficult to see how this helps this section of Punjabi women. The only legitimate argument appears to be that by removing the option of the procedure, women are saved from the pressure of having to make a choice not to undergo it. However, it is naive to believe that state coercion will make family coercion go away, or that it will somehow help to combat the oppression of Punjabi women.⁹⁷⁴ The decision to undergo sex-selection for non-medical reasons in order to produce a son would be motivated by son preference which is based upon the belief that boys are better than girls. However, as chapter 6 has shown, the availability of sex-selective technologies is not the cause of the oppression of women in Punjabi society. It is a symptom of it.⁹⁷⁵ As such, the

⁹⁷⁴ Steinbock has argued that: 'Even if there is a correlation in some cultures between sex selection and oppression of women, it does not follow that allowing sex selection causes the oppression of women, or that eliminating sex selection would alleviate the oppression. There may be some third factor that is responsible for both the desire for male children and the oppression of women', in Steinbock, 'Sex Selection: Not Obviously Wrong' 27.

⁹⁷⁵ Croll (n 649) 16.

prohibition of such procedures does little to combat son preference or sex discrimination. Prohibition creates a false sense of security that the problem has been ‘dealt with’. In the absence of measures which directly reduce son preference and the oppression of women amongst certain sections of the Punjabi community, these issues are not likely to subside any time soon.⁹⁷⁶ In this context, the prohibition serves two main functions: to patronisingly seek to ‘protect’ women from themselves and to mask the real causes and sustenance of son preference.

The solution is twofold. The first task is to reduce the underlying causes of sex discrimination, oppression and son preference.⁹⁷⁷ As has been set out above, this appears to be naturally, but very gradually, occurring amongst those of Punjabi ethnicity in the UK. The second limb, is to avoid measures which could increase the aversion towards daughters by damaging the perception of women held by both Punjabi women and society. The prohibition fails in this regard and serves only to underpin the beliefs that sustain son preference, namely that women are weak, irresponsible and vulnerable.

⁹⁷⁶ ‘since “the tail cannot wag the dog”... Sex bias must be tackled at more fundamental and comprehensive social, economic, political, and legal levels’, in Bernard M. Dickens, ‘Can Sex Selection be Ethically Tolerated?’ (2002) 28(6) *British Journal of Medical Ethics* 335, 336.

⁹⁷⁷ Dorothy Wertz, ‘Preconception Sex Selection: a Question of Consequences’ (2001) (1) *The American Journal of Bioethics* 36.

CHAPTER 8

CONCLUSIONS

(a) General Conclusions

The thesis has been structured around the objections to sex-selection for non-medical reasons. It has been argued that the ban on sex-selection for non-medical reasons lacks legitimacy as much of its foundations are built upon the objections to the procedure and these objections do not amount, either individually or collectively, to a convincing justification for the prohibition. The procedure should therefore be permitted, at the very least, in pilot form.

Through the examination of the objections to the procedure, certain themes have emerged. The key themes are: (1) that there has been a lack of evidence to substantiate the objections to the procedure; (2) that public opinion has formed a significant part of determining the permissibility of the procedure; (3) that there were inconsistencies in the interpretation of important elements of the objections to the procedure; and (4) that the examination of some of the key objections during the debates was superficial. These will now be discussed in turn.

(i) Substantiating Evidence

The evidence upon which the objections have been based has been at best, speculative, and at worst, entirely absent. This has been most pronounced in relation to the objections concerning alleged harms to individuals and families.

In relation to alleged harms, it has been argued that the harm principle was the correct principle to have applied in this context. However, the harm principle should only justify

interference with liberty where there is empirical evidence of harm. Despite purporting to apply the harm principle, the HFEA failed to produce any evidence that the harms upon which it sought to rely would actually materialise. It asserted that there were concerns relating to the welfare of children born as a result of sex-selection for non-medical reasons. It was feared that resulting children who had been selected because of their sex alone would be at risk of: psychological harm; harm due to prejudice; and harm as a result of parental pressure to fulfil their expectations. The HFEA also asserted that existing children would be at risk of neglect. An examination of these assertions reveals that there was no evidence to support them. Firstly, there was no evidence that the decision to bring the resulting child into existence would be determined by its sex *alone*. Secondly, the HFEA failed to produce any evidence that, even if this were the case, resulting children would be psychologically harmed by such knowledge. There was no attempt by the HFEA to even evidentially explore this suggestion. It accepted it, at face value, as a valid objection to the procedure. Thirdly, there was no evidence to substantiate the assertions that resulting children would be at any greater risk of prejudice or parental pressure by virtue of having being born via the procedure. Finally, in relation to neglect, not only was there no evidence that existing children would be neglected as a result of their parents using the procedure to produce a child of a particular sex, it is difficult to see the logic behind it. There was no attempt to consider the existing mechanisms of protection against parental neglect in the UK, which would have placed such concerns into perspective. In short, there was nothing to substantiate the fears relating to child welfare. In addition to the lack of evidential basis for the claims, the causal connection between use of the procedure and the alleged risks is dubious.

Despite these harms having no evidential basis, the HFEA placed sufficient weight on them to justify the prohibition. It then set about trying to justify the weight that it had placed upon

these unsubstantiated assertions. It did this in three ways. The first involved the principle of precaution. Whilst it has been argued in chapter 4 that the precautionary principle was the correct principle to have applied given the evidential uncertainty, the way in which it was interpreted was not context-appropriate as it was disproportionate. The interpretation of the Science and Technology Committee would have been more appropriate in this context. The principle could have been satisfied by allowing the procedure in pilot form, rather than total prohibition. The second element concerns the burden of proof. Despite the HFEA having relied upon the harm principle, (which requires advocates of coercion to discharge the burden of proof of demonstrating that harm to others will flow from the act that they are seeking to prohibit), it did not employ the harm principle's burden of proof. It reversed it. It took the view that the burden of proof should be on those seeking the procedure to demonstrate its 'demonstrable' benefits. The only justification offered by the HFEA for this approach concerns the third element, that the prohibition would be supported by public opinion. Therefore, instead of providing evidence of the alleged harms, it provided evidence of societal fears of the alleged harms. These fears were not based on evidence that the feared results would materialise because, as stated above, such evidence had not been produced. Therefore, the unsubstantiated fears of harm were being used to justify the inability to substantiate the harms which were feared. This is a circular argument and demonstrates the lack of evidential basis in relation to the main objection relied upon during the debates in formulating the recommendation that the procedure should be prohibited.

There are elements of scare-mongering, (most probably unintentional), within the approach. This has occurred because the objections to the procedure focussed on the worst-case scenarios and these were persistently mentioned throughout the debates. The veracity of the objections was not tested in sufficient depth during the debates to either dismiss them

completely or to cast sufficient doubt on them so that they could be placed into a fair and proportionate perspective. The effects of this were even more damaging due to the significance afforded to public opinion. Public opinion on sex-selection, due to the complexity of the issue, the methods used in order to elicit it and also due to its very nature, was in this context susceptible to knee-jerk reactions and the effects of scare-mongering. It was, therefore, even more important for the ‘experts’, (the HFEA, the Government and other bodies entrusted to disseminate accurate and fair information to the public), to thoroughly examine the evidence base in order to differentiate real possibilities based on evidence from speculation based on hearsay and ‘gut’ feelings.

(ii) Public Opinion

Heavy reliance was placed on public opinion throughout the debates as a justification, not only for the prohibition of the procedure, but for a prohibition in the absence of evidence to support the reasons upon which the prohibition was based. The HFEA asserted that there was no need to produce evidence to show that the alleged harms would arise if the procedure were permitted, because the public were so opposed to the procedure. In other words, the voice of the majority should be adhered to and those unwilling to adhere to it voluntarily should be forced to do so by legal prohibition. The HFEA went even further than this in its 2003 report. It concluded that, the fact that those seeking the procedure were not supported by public opinion meant that the burden of proof under the harm principle should be reversed and placed upon them. Further, the civil standard of proof, namely the balance of probabilities, should be departed from in favour of a much higher standard requiring proof of ‘demonstrable’ benefits.

Chapter 3 has argued that this is a problematic approach for several reasons, including the

following. Firstly, in light of the HFEA's reliance upon the harm principle, public opinion is a dubious ground upon which to justify a legal prohibition. This is particularly so when it is used to justify not only the prohibition, but also: (a) the fact that there is no evidence to support the fundamental basis of the prohibition; (b) a reversal of the burden of proof from that generally understood to attach to the harm principle; and (c) the substitution of a much higher standard of proof than that generally adopted in relation to civil proceedings. It is tantamount to saying that there is no need to justify controlling and coercing the minority, because they are in the minority.⁹⁷⁸

Secondly, public opinion gathered during the debates was not generally well-informed in relation to sex-selection and the surrounding issues. Chapter 3 has presented research that reveals that the general public, when asked to give their opinion on a given public policy issue, have generally given very little thought to it previously and are prone to 'manufacture' an ill-thought out response to it. Despite this, the sex-selection research on public opinion made no real effort to inform public opinion. This can be seen from the comparison of sex-selection with saviour siblings in chapter 5. During the Opinion Leader Research, conducted in order to determine public opinion on saviour siblings, participants were provided with information from expert speakers before being asked for their opinions. The HFEA noted that several participants had stated that they 'knew nothing' about the issue before this process and that it had made them feel more informed and comfortable about forming their opinions.⁹⁷⁹ By way of contrast, even during the qualitative studies, very little expert information was provided to participants during the public opinion research on sex-selection. Some participants expressly stated that they could not reach a conclusion on the issue because they

⁹⁷⁸ It is true that many different areas of law and public policy have been driven by public opinion. However, this does not mean that it is a legitimate approach. The pre-1967 prohibition of homosexual acts is an example of this, albeit in a different context.

⁹⁷⁹ Opinion Leader, *A Qualitative Study of Public Attitudes to Embryo Selection* (n 525) 54.

did not feel that it had been explored in sufficient depth.⁹⁸⁰

Finally, it has been argued in chapter 3 that it is far from clear that a significant majority of the public were actually opposed to the procedure. This is because, in addition to the concerns about public opinion being ill-informed, it was also arguably unrepresentative. This is due, in part, to the methods used to elicit it,⁹⁸¹ but also due to the tiny number of responses included as part of the findings. Further, it is likely that pressure groups formed a significant part of the responses to the HFEA's consultations. The HFEA itself acknowledged that 'it is virtually impossible to assess the number of people represented by these responses'.⁹⁸² This casts doubt upon the reliability of the public opinion relied upon in order to justify the prohibition. It has, however, been acknowledged in chapter 3 that the HFEA's more recent consultations reveal that it has made significant improvements to its consultation processes in a number of respects. Most notably, recent consultations have been presented in a more transparent manner and have been focussed on educating participants in order to elicit informed opinion rather than 'gut' reactions.

⁹⁸⁰ Counter Point, *Sex Selection – Policy and Regulatory Review* (n 113) 34.

⁹⁸¹ The research on public opinion relating to saviour siblings demonstrates that the use of case studies can elicit a more favourable response to the procedure. The HFEA explicitly recognised that case studies could 'highlight plight of individuals involved', in Opinion Leader, *A Qualitative Study of Public Attitudes to Embryo Selection* (n 525) 23. However, no such methods were used in relation to sex-selection. The public opinion research on sex-selection included methods such as asking for a 'yes' or 'no' response to the statement '[t]he use of PGD should be permitted for selecting the sex of offspring for non-medical reasons', in *Options for Regulation* (n 75) 24. This did very little to evoke empathy and deeper-thought as the saviour sibling case studies did. Had they have been employed in relation to sex-selection, a more favourable response to the procedure could have been received.

⁹⁸² *Options for Regulation* (n 75) 16, para 56. On a more general note, Arnstein argued that whilst consultations can provide the means through which citizens can participate in decision making, they can also be a 'sham' since there is no guarantee that participants' opinions will be accurately reflected and taken account of. She argues that this is especially so where consultation is the only mode of gathering public opinion, 'When powerholders restrict the input of citizens' ideas solely to this level, participation remains a window dressing ritual. People are primarily perceived as statistical abstractions...', in Arnstein (n 226) sec 3.4. It is acknowledged that the HFEA used other methods of gathering public opinion throughout the debates, including the use of focus groups. However, the criticisms that follow apply equally to those other methods.

(iii) Inconsistent Reasoning

During the debates, there were inconsistencies in relation to several important elements of the issues surrounding sex-selection. Firstly, the principle of precaution was interpreted inconsistently. Some inconsistency is inevitable where the principle is being interpreted and applied by different bodies, such as the HFEA, the Government and the Science and Technology Committee. However, the principle was also interpreted in two different and opposing ways by the same body: the HFEA itself. This was demonstrated in chapter 5 where the HFEA's interpretation of precaution in the context of sex-selection was compared to that adopted in relation to saviour siblings. In relation to sex-selection, the HFEA was clear that the precautionary principle demanded a total prohibition of sex-selection for non-medical reasons on the basis that there was a risk of potential harm to resulting and existing children, even though there was no evidence to substantiate the assertion that the harm may materialise. In direct contrast to this stance, in relation to saviour siblings, the HFEA was of the view that precaution required that it should first be established whether any evidence actually exists which substantiates the alleged harms of the procedure. If such evidence does exist, its relevance to the permissibility of the procedure should be examined. Only if such evidence exists and is deemed to be relevant to permissibility will there be any justification for restricting the procedure. Chapter 5 set out some of the potential wider political and media-based reasons for saviour siblings having been ultimately permitted by statute, whilst sex-selection for non-medical reasons was prohibited. However, the HFEA did not explore these reasons in its 2004 review. Therefore, it failed to provide any legitimate justification for the inconsistency. The same body was debating the issues to be prohibited within the same piece of legislation at around the same time. The interpretation applied in relation to saviour siblings should have been applied to sex-selection. This would have made more sense in the medical context. Had this have been done, there would have been very little justification for

prohibiting sex-selection.

Secondly, the HFEA's application of the harm principle was inconsistent with its own subsequent reasoning. It sought to rely on the harm principle in order to justify the prohibition of sex-selection for non-medical reasons. However, it did not consistently apply all parts of this principle. Firstly, it reversed the principle's burden of proof without offering any legitimate justification for this, as explained above. Chapter 4, has argued that this was wrong because in certain circumstances, access to the procedure can be construed as a negative right, and in these circumstances the burden should be placed on the 'interferers' with that right, in other words, those opposing the procedure. Secondly, according to the harm principle, the opinions of others cannot justify coercive measures. However, in direct contrast to this, the HFEA placed heavy reliance upon public opinion. Chapter 3 has argued that this was not a legitimate use of public opinion.

Finally, the interpretation afforded to 'non-medical' reasons throughout the debates was inconsistent. Initially, the reasons for sex-selection were divided into 'medical' and 'social' reasons, with family balancing being placed within the latter category.⁹⁸³ At times, 'social' reasons appeared to be allied to 'frivolous' and 'eugenic' reasons for sex-selection. The HFEA used a different set of categories in separating out the reasons for the procedure. It divided reasons into 'medical' and 'non-medical', with the latter being sub-divided into 'personal' reasons and 'social/cultural/economic' reasons. It moved family balancing from the earlier category of 'social' reasons into the new sub-category of 'personal' reasons.⁹⁸⁴ There was also a lack of clarity as to what the HFEA saw as the difference between 'reasons', 'motives' and 'purposes'. These categories changed again during the Science and Technology

⁹⁸³ HFEA, *First Annual Report* (n 64) 27; HFEA, *Sex Selection Public Consultation Document* (n 65) 4; HFEA/HGC, *Outcome of the Public Consultation* (n 76) 6, para 25.

⁹⁸⁴ *Choice and Responsibility* (n 95) 7, para 15.

Committee's review, which added a further sub-division to non-medical reasons by recognising the Masterton-type scenario of 'family re-building' as another type of 'non-medical' reason. This is significant because the central purpose of the debates was to determine the circumstances in which sex-selection should be permitted and its permissibility, as argued in chapter 4, was structured around the reasons for its use. These reasons were separated into different categories, such as non-medical or social. The fact that there was no consistent definition of each category meant that there was no consistency as to what was deemed to fall within each category. This highlights that the debates were not focussed and consistent, but confused and disjointed. This also casts further doubt on the reliability of the public opinion relied upon as part of the debates because opinions were essentially being gathered on the issue of whether sex-selection for non-medical and/or 'social' reasons should be permitted, but the scenarios that fell into each category were in constant flux. Chapter 4 has argued that the permissibility of the procedure should not have been determined according to reasons at all. An alternative approach has been suggested: the permissibility of the procedure should be based upon the harms and the benefits of the procedure in any given case. The harms and benefits that the procedure is likely to produce should be based on evidence. The division of permissible from non-permissible would, therefore, be less arbitrary and more realistic. It would also combat the very reason why permitting the procedure for 'non-medical reasons' was alleged to be so dangerous: potential harms.

(iv) Superficial Examination

The debates did not delve deep enough into sex-selection to provide a balanced and proportionate response to the issue. Whilst the key objections and issues were uncovered during the debates, they were not properly examined and considered. There are four main examples of this. The first concerns the potential benefits of sex-selection for non-medical

reasons. A significant proportion of the debates was dedicated to discussing the potential harms of sex-selection and, as set out above, these harms formed the central tenet of the justifications for the prohibition. However, no effort was made to discuss or try to identify potential benefits of the procedure. This is unfair, and adds further instability to the foundations of the prohibition for at least two reasons. Firstly, it demonstrates that the debates were one-sided and lacked balance and objectivity. The debates cannot have been fair and thorough given that they only considered one perspective on the issue: the perspective of those who objected to its permissibility. The views of those supporting the procedure were not given the same time, weight and consideration. Secondly, a further layer of unfairness is added by the fact that the HFEA placed the burden of proof firmly upon those seeking sex-selection to demonstrate the benefits of the procedure. Therefore, the HFEA expects those seeking sex-selection to engage with the issue from a perspective that the HFEA was not prepared to entertain within its own report.

The second relates to the welfare of the child and potential harm. It was asserted that the procedure gave rise to a risk to the welfare of resulting and existing children. There was no engagement with the issue beyond that. There was no examination of whether this assertion actually made sense. The HFEA failed to provide a definition of what it was taking harm to mean in this context. Nor was there any attempt to consider what 'welfare' means, or should mean, in the specific context of sex-selection, (either under the HFEA's own Codes of Practice or under the Children Act 1989). The fundamental questions of how welfare is actually relevant to sex-selection and whether this test should be applied at all, (and if so, why), were completely overlooked during the sex-selection debates. Chapter 3 attempted to examine this issue and considered the leading definitions of harm, namely that provided by Feinberg, the Children Act 1989 and the HFE Act 2008. The definition of welfare was

considered alongside this in order to demonstrate the link between the two concepts. It was argued that, on closer inspection, the alleged harms did not amount to significant harms within any of the three definitions discussed. This has significant consequences for the assertion that there may be risks to child welfare, because it is only when such risks are risks of significant harm to welfare, and there is evidence to substantiate this assertion, that the state can legitimately interfere. The debates were not just superficial in relation to what degree of 'risk' or harm to welfare was needed before state interference was warranted, they also failed to examine the more basic question of whether, on balance, the welfare of resulting and existing children would actually be damaged at all by the procedure. Chapter 3 performed a basic examination of this question and concluded that, on balance, there were sufficient benefits to child welfare and sufficient existing safeguards against any detriments to welfare to defeat the HFEA's assertion that the procedure should be prohibited due to welfare risks.

The third example concerns sex discrimination. This was raised as an objection several times during the debates. The HFEA, in particular, attached weight to it in recommending the prohibition. Nevertheless, it was not examined in depth. In particular, there was no consideration of: (1) whether sex-selection for non-medical reasons would actually give rise to and/or enhance sex discrimination; (2) if so, to what extent and how; (3) whether it would give rise to or bolster sex discrimination to such an extent that it justified prohibition; (4) whether the draconian measure of prohibition was the only manner in which to prevent such discriminatory effects, if any; and (5) the extent to which the prohibition actually underpins sexist beliefs and the foundations of son preference.

The final example relates to the objection of sex ratio imbalance. This objection was raised at several stages of the debates. It was not relied upon as a main justification for the prohibition

of sex-selection for non-medical reasons. However, it was not ever fully investigated and explicitly discounted either. It therefore lingered in the background and served to add to the atmosphere of hostility towards the procedure. The issues surrounding sex ratios are extremely complex but the consideration of these objections was superficial in several respects. Firstly, the blanket term 'India' was used to describe the situation in certain of the northern Indian states in order to conjure up images of extreme sex ratio imbalances, which it was suggested could happen in the UK. A more thorough examination of sex ratio statistics in India would have revealed that only certain of the Indian states display imbalanced sex ratios. This is very significant because such an examination would have led to questions being raised as to why only certain states are imbalanced. Chapter 6 has argued that the answer lies in the social, cultural and economic factors in these states. Had such an examination have been carried out, it would have become clear that these factors are virtually absent in the UK. On this basis, chapter 6 has argued that it is very unlikely that son preference, and thereafter sex ratio imbalance, would materialise amongst the general UK population. Whilst son preference has been found amongst those of Punjabi origin in the UK, it has generally become diluted over time. Given the expense and physical demands of PGD, it is unlikely that more than an insignificant few Punjabi couples would pursue sex-selection for non-medical reasons via this method. It is likely that amongst the few couples who would undergo the procedure, most of them would be seeking it in order to balance, rather than imbalance, the sex ratio of their family. Therefore, had a closer examination of the issue been carried out during the debates, this objection could have been dismissed as lacking any sensible basis.

The combined effect of the lack of substantiating evidence, the reliance placed upon public opinion, the inconsistent reasoning and the superficial examination of crucial issues during the debates leading to the prohibition of the procedure reveal that the foundations for the

prohibition are deficient. The reasoning behind the justifications for the ban is flawed, shallow and in parts, contradictory. On this basis, the thesis has argued that the prohibition is, at present, unjustifiable. The procedure should be permitted, at the very least, in pilot form. This would not only satisfy the precautionary principle but also ensure that the likelihood, nature and extent of the occurrence of any risk of harm could be properly evidenced and scrutinised.

(b) Wider Significance

The significance of the conclusions reached in this thesis extends beyond the argument that sex-selection for non-medical reasons should not be prohibited. They also have implications for the way in which policy and law relating to reproductive technologies and reproduction should consider and accommodate culture and ethnicity. I hope to have demonstrated the following.

Firstly, state interference through prohibition is an extreme measure. Such a measure should only be employed where there is evidence of harm and in the absence of less severe solutions such as regulation and pilot schemes, (in line with the harm principle). This thesis has argued that in the context of: (a) the extreme importance and personal nature of reproductive decision-making and (b) the Punjabi culture and women of Punjabi ethnicity, such intervention is likely to do more harm than good. If such measures are to be adopted there must be clear and compelling evidence to justify them. Whether or not someone can reproduce in a particular manner and for a particular motive is an issue that is far too important to base upon assertions, inconsistently applied principles and a general public

consensus, which is based predominantly on ‘gut’ feelings.

Secondly, it has been argued that whilst it is entirely legitimate to employ the principle of precaution in relation to reproductive technologies where harm is feared but cannot be substantiated, it should be applied and interpreted in a manner that is context appropriate. The purpose of a precautionary approach should be, firstly, risk management and secondly, evidence gathering. In the context of reproductive technologies, regulation and/or pilot schemes would meet both of these objectives, and would constitute a proportionate response to the alleged risks. Such an approach would ensure that risks are managed, whilst allowing evidence to be gathered as to whether, and to what extent, any alleged risks exist. To maintain that precaution demands absolute prohibition in the context of reproductive technologies would be both disproportionate and useless in terms of evidence gathering. Therefore, where there is a mere suspicion that harm may materialise if a particular reproductive technology is used, but there is no evidence of this, then the general approach should be to permit the procedure in pilot form.

Thirdly, whilst those of Punjabi ethnicity constitute a small proportion of the general UK population, they do generally have very strong views in relation, not just to the sex of the children that they produce, but to the production of children generally. Chapter 6 has presented findings that whilst parenthood is important amongst the general UK population, amongst many parts of the Punjabi community in the UK it is socially compulsory. An appreciation of the exceptional importance of being able to produce children for those of Punjabi ethnicity is crucial in the formulation of law and policy in this area. This follows on from the first point that prohibition of certain reproductive technologies could prove to be very damaging to the Punjabi community given the heightened significance attached to being

able to reproduce. It should be noted that this does not apply exclusively to those of Punjabi ethnicity. There are other ethnicities within the UK that place extreme importance upon being able to reproduce. Given that ethnic minority groups make up around 19.5 per cent of the UK population, this area warrants further research and consideration⁹⁸⁵.

Fourthly, where a particular ethnic group is used as part of the justification for any type of prohibition in the medical sphere, at the very least detailed consideration should be given to: (a) the veracity of the claims relating to that particular ethnic minority; (b) what the causes of the given problem are and whether, in light of those causes, a prohibition will actually succeed in stopping or reducing the problem; (c) whether there are any less intrusive and extreme measures available which would reduce the problem; and (d) an examination of the impact that the ban will have upon the given community, in particular, careful consideration of the extent to which it may actually be detrimental to the community.

This leads on to the final point, that the research is relevant to the issue of sex-selective abortion in the UK. This is significant in light of the recent media scandal surrounding sex-selective abortion. It was alleged by the media in 2012 that the procedure was being offered by clinics and it was implied that it was being sought by those of south-Asian or Indian origin. Chapter 7 has argued that, on balance, restrictions on sex-selection via PGD would be more damaging to Punjabi women than permitting the procedure. One of the central reasons for this conclusion is that the prohibition would curtail the autonomy of those women who would be seeking the procedure because they want to, (in particular Punjabi ethnicity women born in the UK and often those who moved to the UK some time ago), and would also remove the

⁹⁸⁵ By 'ethnic minority' I am referring to those individuals who did not view themselves as falling within the Ethnic group 'English/Welsh/Scottish/Northern Irish/British' within the last Census. The figure has been worked out by calculating the number of individuals falling within categories outside of this group, (10,941,226), as a percentage of all of those who responded to the Census, (56,075,912), see Nomis, Official Labour Market Statistics (n 858).

autonomy-building process from those Punjabi women who need to produce a son in order to make the transition to a position of power within the family, (through becoming the mother of a son and, thereafter, a mother-in-law). This is damaging in and of itself. However, it is particularly detrimental to Punjabi women when viewed in the context of son preference, which is the reason why sex-selective practices are being fuelled in the first place. Son preference is based upon beliefs that women are worth less than men because they are weak and cannot be attributed the responsibility to take care of, and make decisions relating to, themselves or others. Restrictions on sex-selection, whether via PGD or sex-selective abortion, affirm the belief that women are not responsible enough to make important decisions relating to their own bodies and lives. It supports the belief that these decisions should be made by others on behalf of women. In this way, such restrictions underpin the beliefs which form the foundations of son preference. Therefore, rather than tackling the root cause of the problem by raising the value and worth of Punjabi women, it actually fuels degradation and son preference. When applied to sex-selective abortion, this argument cautions against further restrictions on abortion and adds weight to arguments in favour of fundamentally reforming the Abortion Act 1967, which many have argued is built upon an ethos of the 'irresponsible' and 'weak' woman.

(c) A Final Word

Reproductive technology is an area which continues to progress at an extraordinary pace. Sex-selection is at the forefront of this. There are, and will always be, those who attempt to push the boundaries of this growing area. For those with a familial, cultural, and/or social interest in producing a child of a particular sex, the desire for progression in the fields of medicine

and science and, most importantly, in relation to social attitudes and perceptions, will be all the more pertinent. Against this background, and given the importance generally attached to reproduction in the UK, the fierce protection by many of what is termed ‘reproductive liberty’, the exceptionally intimate nature of reproductive decision-making, and the heightened importance attached to sex in certain cultures within the UK, challenges to the prohibition are almost inevitable. These challenges are likely to attack the very foundations upon which the ban has been built, and rightly so. It has been argued throughout the thesis that these foundations have been poorly constructed, in several respects. Evidence was replaced by assertion in relation to several of the key justifications of the prohibition, most notably in relation to potential harms. Repetition of groundless and out-dated objections to the procedure in conjunction with reliance upon an inadequate structure for the discussions meant that the debates were limited in scope. Several elements that required further consideration, in particular the psychological impact of the procedure upon resulting children, were taken at face value. Consequently, the debates surrounding the issue were shallow given the complexity of the subject matter. Given the sensitivity of the topic and the strength of opposition to the ban, even if voiced by a tiny minority, the ban will face legal challenge at some point. The question is, not *whether* the ban will be contested, but *when* and *how*.

APPENDIX

The provisions of the Human Tissue and Embryos (Draft) Bill prohibited sex-selection for non-medical reasons in the following way:

1ZA (1) A licence... cannot authorise the testing of an embryo, except for

one or more of the following purposes—

...

(c) in a case where there is a particular risk that the embryo may have an abnormality affecting the X or Y chromosomes, establishing the sex of the embryo,

(2) A licence under paragraph 1 cannot authorise the testing of embryos for the purpose mentioned in sub-paragraph (1)(b) or (c) unless the Authority is satisfied—

(a) in relation to the abnormality of which there is a particular risk, and that there is a significant risk that a person with the abnormality will have or develop a serious physical or mental disability, a serious illness or any other serious medical condition.

...

(3) In considering under paragraph 1(3) whether the testing of embryos for the purpose mentioned in sub-paragraph (1)(b) or (c) is necessary or desirable for the purpose of providing treatment services, the Authority must have regard to—

- (a) the extent to which the disability, illness or other medical condition involves intellectual, physical, emotional or psychological impairment, having regard to the treatment available,
- (b) where relevant, the likely age of onset of the disability, illness or other medical condition in question,
- (c) where any illness or other medical condition is a progressive disorder, the likely rate of degeneration,
- (d) the proportion of those having the abnormality in question who are likely to be affected, and
- (e) the reliability of the test to be applied.

It then went on to explicitly ban sex-selection for non-medical reasons:

1ZB (1) A licence under paragraph 1 cannot authorise any practice designed to secure that any resulting child will be of one sex rather than the other.

(2) Sub-paragraph (1) does not prevent the authorisation of any testing of embryos that is capable of being authorised under paragraph 1ZA.

(3) Sub-paragraph (1) does not prevent the authorisation of any other practices designed to secure that any resulting child will be of one sex rather than the other in a case where—

- (a) there is a particular risk that a woman will give birth to a child with an abnormality affecting the X or Y chromosomes, and

- (b) the Authority is satisfied that the abnormality involves a significant risk falling within paragraph 1ZA(2).

...

- (4) In considering under paragraph 1(3) whether any practice designed to secure that result in a case falling within subparagraph (3) is necessary or desirable for the purpose of providing treatment services, the Authority must have regard to the matters specified in paragraph 1ZA(3)(a) to (e).

The Human Fertilisation and Embryology Act 2008 made several small amendments to the Draft Bill. Para 1ZA (1)(c) has been amended to provide that:

1ZA (1) A licence... cannot authorise the testing of an embryo, except for one or more of the following purposes—

...

- (c) in a case where there is a particular risk that any resulting child will have or develop—

- (i) a gender-related serious physical or mental disability,

- (ii) a gender-related serious illness, or

- (iii) any other gender-related serious medical condition, establishing the sex of the embryo,

...

- (3) For the purposes of sub-paragraph (1)(c), a physical or mental disability, illness or other medical condition is gender-related if the Authority is satisfied that –

- (a) it affects only one sex, or
- (b) it affects one sex significantly more than the other.

The first amendment is that para 1ZA (1)(c) now refers to ‘any resulting child’ rather than ‘the embryo’. This is a much wider category of potential victims of the disability, illness or condition. It allows the possibility of risks to foetuses, newborns, and future children to be taken into account, rather than just risks to the *embryo*. This is quite significant in the context of the concept of harm discussed in chapter 2. The emphasis has been placed on risks of harmful conditions developing in relation the *child* into which the embryo develops, as opposed to the *embryo* which is chosen.

The second amendment is in relation to the wording in the Draft Bill, which set out that there must be a particular risk of ‘abnormality affecting the X or Y chromosomes’. The word ‘abnormality’ has been removed completely, as has the reference to X or Y chromosomes. The purpose of the original reference to X or Y chromosomes was to provide that the ‘abnormality’ had to be related to gender. In its place, para 1ZA (3) provides a much clearer and less ambiguous definition of what constitutes a ‘gender related’ condition.

The third amendment relates to para 1ZA (2)(a) of the Draft Bill. This had required that there be *particular* risk of the abnormality being gender related, but that there be a *significant* risk that the person will develop a serious disability, illness, or other medical condition. The new Act abandons the latter requirement and requires merely that there be a particular risk of developing a gender related serious disability, illness, or other medical condition. Although the Act provides no definition of *particular*, it appears to accept risks that are somewhat less than *significant*. This is a lower threshold to cross in order to establish grounds for sex-

selection for medical reasons.

The fourth amendment is the removal of the requirements to which regard must be had in determining whether the testing of embryos is necessary or desirable for the purpose of providing treatment services under the Draft Bill, as contained in para 1ZA (3) of the Bill.

This has also resulted in the removal of para 1ZB(4) of the Draft Bill from the new Act as it was no longer necessary.

BIBLIOGRAPHY

Legislation - UK

Abortion Act 1967

Children Act 1989

Human Fertilisation and Embryology Act 1990

Human Fertilisation and Embryology Act 2008

Human Fertilisation and Embryology (Quality and Safety) Regulations 2007

Human Tissue and Embryos (Draft) Bill

Sex Discrimination Act 1975

Legislation – India

Anti-Dowry Amendment Act 1984

Dowry Prohibition Act 1961

Hindu Succession Act 1956

Hindu Succession (Amendment) Act 2005

Medical Termination of Pregnancy Act 1971

Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex-Selection) Act 1994

Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act 1994

Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Amendment Act 2002

Case Law - UK

A (Conjoined Twins: Medical Treatment), Re [2001] Fam 147

McFall v Shimp (1978) 10 Pa. D & C 3d 90

R (on the application of Quintavalle) v Human Fertilisation and Embryology Authority [2003] EWCA Civ 667

R (on the application of Quintavalle) v Human Fertilisation and Embryology Authority [2005] UKHL 28

Y (adult patient) (transplant: bone marrow), Re [1997] 2 WLR 556; [1997] Fam 110

Reports - UK

Cabinet Office, *Consultation Principles: Guidance* (17 July 2012, updated 5th November 2013)

<www.gov.uk/government/uploads/system/uploads/attachment_data/file/255180/Consultation-Principles-Oct-2013.pdf> accessed on 1st February 2014

Counter Point, *Sex Selection – Policy and Regulatory Review: A Report on the Key Findings from a Qualitative Research Study* (Prepared for Human Fertilisation and Embryology Authority October 2002) <[www.hfea.gov.uk/docs/Appendix_E_-_Qualitative_Research_Findings_report_of_research_conducted_by_Counterpoint_\(UK\)_Ltd.pdf](http://www.hfea.gov.uk/docs/Appendix_E_-_Qualitative_Research_Findings_report_of_research_conducted_by_Counterpoint_(UK)_Ltd.pdf)> accessed on 27 August 2013

Department for Education, *Working Together to Safeguard Children: a Guide to Inter-Agency Working to Safeguard and Promote the Welfare of Children* (March 2013)

<<http://www.workingtogetheronline.co.uk/glossary/neglect.html>> accessed on 27 August 2013

Department of Health, *A Practical Guide to Ethnic Monitoring in the NHS and Social Care* (29 July 2005) <www.lho.org.uk/download.aspx?urlid=9743> see also

<http://webcache.googleusercontent.com/search?q=cache:cR_YKb5RsYsJ:www.lho.org.uk/download.aspx%3Furlid%3D9743+&cd=3&hl=en&ct=clnk&gl=uk&client=safari> accessed on 27 August 2013

— — *Human Reproductive Technologies and the Law: Government Response to the Report from the House of Commons Science and Technology Committee* (Cm 6641, 2005)

— — *Review of the Human Fertilisation and Embryology Act: A Public Consultation* (2005)

— — *Review of the Human Fertilisation and Embryology Act: Proposals for Revised Legislation (including Establishment of the Regulatory Authority for Tissue and Embryos* (White Paper, Cm 6989, 2006)

Department of Health and Social Security, *The Report of the Committee of Enquiry into Human Fertilisation and Embryology* (Cm 9314, 1984)

— — *Human Fertilisation and Embryology: A Framework for Legislation* (White Paper, Cm

259, 1987)

Dialogue by Design, *Medical Frontiers: Debating Mitochondria Replacement: Annex IV Summary of the 2012 Open Consultation Questionnaire*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013) <www.hfea.gov.uk/docs/Mito-Annex_IV-questionnaire_report.pdf> accessed on 2nd January 2014

HC Deb 23 April 1990, vol 171, cols 81 and 91

HL Deb 19 November 2007, vol 696, cols 676, 680 and 689

HL Deb 21 November 2007, vol 696, col 843

HL Deb 3 December 2007, vol 696, cols 1498, 1520-1523, 1529, 1532, 1537, 1554, 1556 and 1582

HL Deb 4 Dec 2007, vol 696, col 1649, 1661 and 1666

HL Deb 10 December 2007, vol 697, col 17

HL Deb 15 January 2008, vol 697, col 1193

HL Deb 21 January 2008, vol 698, cols 11, 17, 27, 41, 61 and 108

HL Deb 28 January 2008, vol 698, cols 480, 496 and 498

HL Deb 4 February 2008, vol 698, col 878

HC Deb 12 May 2008, vol 475, cols 1066, 1076, 1086, 1093, 1104, 1109, 1136, 1139-1141, 1153 and 1154

HC Deb 19 May 2008, vol 476, cols 29, 52, 88 and 95

HC Deb 22 October 2008, vol 481, cols 324, 340 and 381

HFEA, *Donating Sperm and Eggs: Have Your Say* (14th August 2012)

<www.hfea.gov.uk/5605.html> accessed on 15th January 2014

— — *First Annual Report - Report of the HFEA's Work and Financial Accounts* (1992)

<www.hfea.gov.uk/docs/Annual-Report-1st-1992.pdf> accessed on 27 August 2013

— — *Hybrids and Chimeras: A Report on the Findings of the Consultation*, (October 2007)

<www.hfea.gov.uk/docs/Hybrids_Report.pdf> accessed on 15th January 2013

— — ‘Minutes of the Authority Committee Meeting’ (held at the Royal College of Obstetricians and Gynaecologists) 15 May 2003

— — ‘Minutes of the Authority Committee Meeting’ (held at the Royal Society of Medicine)

19 June 2003

— — ‘Minutes of the 139th Open Authority Committee Meeting’ (held at the Royal College of Obstetricians and Gynaecologists) 18 February 2004

<www.hfea.gov.uk/docs/AM_Minutes_Feb04.pdf> accessed on 1st March 2014

— — ‘Minutes of the Non-Confidential Authority Meeting’ 29 November 2006

<www.hfea.gov.uk/docs/AM_minutes_Nov06.pdf> accessed on 1st March 2014

— — ‘Minutes of the Non-Confidential Authority Meeting’ 10th January 2007

<www.hfea.gov.uk/docs/AM_Minutes_Jan07.pdf> accessed on 1st March 2014

— — *Mitochondria Public Consultation*, (28th March 2013) <www.hfea.gov.uk/6896.html> accessed on 2nd January 2014

— — *Sex Selection Public Consultation Document*, (22 January 1993 – 1 June 1993)

<www.hfea.gov.uk/docs/Sex_Selection_Consultation_1993.pdf> accessed on 27 August 2013

— — *Sex Selection: Choice and Responsibility in Human Reproduction* (October 2002)

<www.hfea.gov.uk/docs/Sex_Selection_choice_and_responsibility.pdf> accessed on 27 August 2013

— — *Sex Selection: Options for Regulation* (2003)

<www.hfea.gov.uk/docs/Final_sex_selection_main_report.pdf> accessed on 27 August 2013

— — ‘Tomorrow’s Children: A Consultation on Guidance to Licensed Fertility Clinics on Taking into Account the Welfare of Children to be Born of Assisted Conception Treatment’ (January 2005) <www.hfea.gov.uk/docs/TomorrowsChildren_consultation_doc.pdf> accessed on 27 August 2013

— — ‘Tomorrow’s Children, Report of the Policy Review of Welfare of the Child Assessments in Licensed Assisted Conception Clinics’ (November 2005)

<www.hfea.gov.uk/docs/TomorrowsChildren_report.pdf> accessed on 27 August 2013

— — ‘Listening and Learning: Reviewing the Case by Case approach to the Licensing of Preimplantation Genetic Diagnosis’ (1 December 2009)

<www.hfea.gov.uk/docs/Discussion_document_-_case_by_case_approach_to_PGD.pdf> accessed on 27 August 2013

HFEA Ethics and Law Committee, *CORE v HFEA* – Implications for PGD Licensing (July 2003) <www.hfea.gov.uk/docs/ELC_4_july03.pdf> accessed on 27 August 2013

— — *PGD/HLA Typing Policy Research* (13 April 2004)

<www.hfea.gov.uk/docs/ELC_5_april04.pdf> accessed on 27 August 2013

— — *PGD/HLA Typing Policy Research* (17 June 2004)

<www.hfea.gov.uk/docs/ELC_PGD-HLA_June04.pdf> accessed 27 August 2013

— — ‘Case by Case Decision Making in PGD’ (15 December 2009)

<www.hfea.gov.uk/docs/2009-12-15_ELAC_-_Case_by_case_decision_making_in_PGD_-_Paper.PDF> accessed on 27 August 2013

HFEA/HGC, *Outcome of the Public Consultation on Preimplantation Genetic Diagnosis*

(November 2001) <www.hfea.gov.uk/cps/rde/xbcr/hfea/PGD_outcome.pdf> accessed on 27 August 2013

Science and Technology Select Committee, *Human Reproductive Technologies and the Law*

5th Report (HC 2004-05, 7-I)

— — *Human Reproductive Technologies and the Law Fifth Report* (HC 2004-05, 7-II)

— — *Inquiry into Human Reproductive Technologies and the Law Eighth Special Report* (HC 2004-05, 491-I)

Joint Committee on the Human Tissue and Embryos (Draft) Bill, *Human Tissue and Embryos (Draft) Bill* (2006-07, HL 169-I, HC 630-I)

MORI (Market & Opinion Research International) Social Research Institute, *Sex Selection – Public Consultation: Research Study conducted for Human Fertilisation and Embryology Authority* (Prepared for Human Fertilisation and Embryology Authority January 2003) <www.hfea.gov.uk/docs/Appendix_F.pdf> accessed on 27 August 2013

Office for Public Management, *Medical Frontiers: Debating Mitochondria Replacement: Annex I Summary of Evidence*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013) <www.hfea.gov.uk/docs/Mito-Annex_I_-_summary_of_evidence.pdf> accessed on 2nd January 2014

— — *Medical Frontiers: Debating Mitochondria Replacement: Annex II Deliberative Public Workshops*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013) <www.hfea.gov.uk/docs/Mito-Annex_II-public_deliberative_workshops.pdf> accessed on 2nd January 2014

— — *Medical Frontiers: Debating Mitochondria Replacement: Annex VI Patient Focus Group*, (Prepared for the Human Fertilisation and Embryology Authority, February 2013) <www.hfea.gov.uk/docs/Mito-Annex_VI-patient_focus_group.pdf> accessed on 2nd January 2014

Opinion Leader Research, *A Qualitative Study of Public Attitudes to Embryo Selection for Tissue Donation* (Prepared for Human Fertilisation and Embryology Authority June 2004) <www.hfea.gov.uk/docs/ELC_Annex_G_OLR_findings_June04.pdf> accessed on 27 August 2013

Opinion of the Ethics Committee of the Human Fertilisation and Embryology Authority, *Ethical Issues in the Creation and Selection of Preimplantation Embryos to Produce Tissue Donors* (22 November 2001) <www.hfea.gov.uk/docs/ELC_5_july03.pdf> accessed on 27 August 2013

People Science & Policy Ltd, *Report on the Consultation on the Review of the Human Fertilisation & Embryology Act 1990*, (Prepared for the Department of Health March 2006) <www.peoplescienceandpolicy.com/downloads/FINAL_HFEA_reportDH.pdf> accessed on 27 August 2013

Reports - India

Centre for Development Studies Thiruvananthapuram Kerala, *Kerala: Human Development Report 2005* (State Planning Board Government of Kerala 2006)
<www.undp.org/content/dam/india/docs/human_develop_report_kerala_2005_full_report.pdf>
> accessed on 27 August 2013

National Commission for Women, *All India Conference of State Secretaries – Health, WCD, DGPS, and NGOs on implementation of the PC and PNDT Act*, (New Delhi, 11 August 2005)
<<http://ncw.nic.in/pdfReports/PNDT%20Report.pdf>> accessed on 3 May 2012

Censuses

Census Commissioner Ministry of Home Affairs India, ‘Final Population Totals’ (*Census of India 2011*) <www.censusindia.gov.in/2011census/censusinfodashboard/index.html>
accessed on 26 August 2013

Census Commissioner Ministry of Home Affairs India, ‘Gender Composition of the Population (Provisional Results)’ (*Census of India 2011*) <www.censusindia.gov.in/2011-prov-results/data_files/india/Final%20PPT%202011_chapter5.pdf> accessed on 5 January 2013

Census Commissioner Ministry of Home Affairs India, ‘Provisional Population Totals Kerala Sex-Ratio for State and Districts: 1901-2011’ Paper 1 Table 3 (*Census of India 2011*)
<http://censusindia.gov.in/2011-prov-results/prov_data_products_kerala_.html> accessed on 13 July 2013

Census Commissioner Ministry of Home Affairs India, ‘Punjab Population Data, at a Glance’ (*Census of India 2011*) <http://www.censusindia.gov.in/2011-prov-results/data_files/punjab/Provisional%20Populatin%20Result%20Punjab1.pdf> accessed on 26 August 2013

Director of Census Operations Punjab, ‘Census of India 2011, Rural – Urban Population (Provisional Totals) Data Sheet, Punjab’ (*Census of India 2011*)
<www.censusindia.gov.in/2011-prov-results/paper2/data_files/punjab/dco-punjab.pdf>
accessed on 5 January 2013

Government of India ‘Provisional Population Totals – Gender Composition’ (*Census of India 2011*) <http://censusindia.gov.in/2011-prov-results/data_files/mp/06Gender%20Composition.pdf> accessed on 26 August 2013

Ministry of Home Affairs India, ‘Sex Ratio of Total Population and Child Population in the Age Group 0-6 and 7+ years: 2001-2011’ Statement 13 (*Censuses of India 2001-2011*)
<www.imaginmor.com/census-of-india-

2011.html#Statement%2012%20%20Sex%20ratio,%20India:%201901-2011> accessed on 26 August 2013

Nomis, Official Labour Market Statistics, 'Ethnic Group by National Identity' (*Census of UK 2011* 31 July 2013)

<www.nomisweb.co.uk/census/2011/LC2202EW/view/2092957703?rows=c_ethpuk11&cols=natid_all> accessed on 5 August 2013

Office for National Statistics, '2011 Census - Population and Household Estimates for England and Wales, March 2011' (*Census of UK 2011* 16 July 2012)

<www.ons.gov.uk/ons/dcp171778_270487.pdf> accessed on 5 January 2013

U S Census Bureau, 'Summary Population and Housing Characteristics' (*US Census 2010* January 2013) <www.census.gov/prod/cen2010/cph-1-1.pdf> accessed on 26 August 2013

Books and Articles

— — 'A Sibling to be my Saviour' (14 May 2006) *The Times*

<www.thesundaytimes.co.uk/sto/news/uk_news/article202147.ece> accessed on 4 February 2014

— — 'Abortion: Gender Claims Probed by Department of Health' *BBC News* (23 February 2012) <www.bbc.co.uk/news/health-17136213> accessed on 25 August 2013

— — 'Awareness March on Girl Day Held' *The Hindu, India's National Newspaper* (2 July 2007) <www.hindu.com/2007/07/02/stories/2007070257410300.htm> accessed on 25 August 2013

— — 'Charlie Whitaker Cured by 'Saviour Sibling'' (22 August 2005) *BioNews*

<www.bionews.org.uk/page_12478.asp?hlight=saviour+sibling> accessed on 3 February 2014

— — 'Concern over baby sex 'guarantee'' (5 July 2001) *BBC News*

<news.bbc.co.uk/1/hi/in_depth/health/2001/fertility_conference_2001/1423628.stm> accessed on 19th February 2014

— — 'Couples Pay for Babies to Order' (4 March 2001) *Mail Online*

<www.dailymail.co.uk/news/article-58419/Couples-pay-babies-order.html> accessed on 19th February 2014

— — 'Concern Over 'Spare Part' Babies' *BBC News* (31 January 2006)

<<http://news.bbc.co.uk/1/hi/health/4663396.stm>> accessed on 25 August 2013

- — ‘Consultation to Look at Sex Selection and Other Issues’ *Bionews* 241 (19 January 2004) <www.bionews.org.uk/page_11829.asp> accessed 25 August 2013
- — ‘Couple abandon attempts to have IVF baby girl’ (24 January 2005) *BioNews* 292 <www.bionews.org.uk/page_12230.asp> accessed 25 August 2013
- — ‘Couple demand right to a baby girl’ (9 October 2000) *BioNews* 78 <www.bionews.org.uk/page_10897.asp> accessed 25 August 2013
- — ‘Embryology Laws Pass First Hurdle’, (12 May 2008) *BBC News* <http://news.bbc.co.uk/1/hi/uk_politics/7394591.stm> accessed on 28th February 2014
- — ‘First Steps taken towards Designer Babies’ undated *Mail Online* <www.dailymail.co.uk/health/article-359470/Fist-steps-taken-designer-babies.html> accessed on 19th February 2014
- — ‘Fletchers Conceive ‘Saviour Sibling’ (29 November 2004) *BioNews* <www.bionews.org.uk/page_12183.asp?hlight=saviour+sibling> accessed on 3 February 2014
- — ‘Hashmis Fail in ‘Saviour Sibling’ Attempt’ (9 July 2004) *BioNews* <www.bionews.org.uk/page_12031.asp?hlight=saviour+sibling> accessed on 3 February 2014
- — ‘Hashmis Suffer Miscarriage Setback’ (10 December 2003) *BioNews* <www.bionews.org.uk/page_11807.asp?hlight=saviour+sibling> accessed on 3 February 2014
- — ‘India puts Sikh Radical Rajoana's Execution on Hold’, *BBC News* (28 March 2012) <www.bbc.co.uk/news/world-asia-india-17532832> accessed on 25 August 2013
- — ‘MPs Reject ‘Saviour Sibling’ Ban’ (19 May 2008) *BBC News* <http://news.bbc.co.uk/1/hi/uk_politics/7409264.stm> accessed on 19th February 2014
- — ‘Rebel MPs Denounce 'Frankenstein' Baby Plan’ (21 March 2005) *Mail Online* <www.dailymail.co.uk/news/article-342569/Rebel-MPs-denounce-Frankenstein-baby-plan.html>
- — ‘‘Saviour Sibling’ Cell Transplant Cures Boy’, (21 October 2004) *BioNews* <www.bionews.org.uk/page_12144.asp?hlight=saviour+sibling> accessed on 3 February 2014
- — ‘Saviour Siblings - the Controversy and the Technique’ (6 May 2011) *The Telegraph* <<http://www.telegraph.co.uk/health/healthnews/5999457/Saviour-siblings-the-controversy->

and-the-technique.html> accessed on 26 August 2013

— — ‘Sex-Selection Abortion Claims Sparks Andrew Lansley Investigation’ *The Guardian* (22 February 2012) <www.guardian.co.uk/world/2012/feb/22/sex-selection-abortion-investigation> accessed on 25 August 2013

— — ‘The Mastertons Webcast: Transcript’, *BBC News* (23 October 2000) <<http://news.bbc.co.uk/1/hi/scotland/981703.stm>> accessed on 25 August 2013

— — ‘What Gender Selection Involves’ (12 November 2003) *Mail Online* <www.dailymail.co.uk/news/article-201891/What-gender-selection-involves.html> accessed on 19th February 2014

— — ‘Workshop on PNDDT Act’ *The Hindu, India’s National Newspaper* (9 May 2008) <www.hindu.com/2008/05/09/stories/2008050959540300.htm> accessed on 25 August 2013

Agarwal B, ‘Gender, Environment, and Poverty Interlinks: Regional Variations and Temporal Shifts in Rural India’ (1997) 25(1) *World Development* 23

Aggarwal P C, *Caste, Religion and Power: An Indian Case Study*, (Shri Ram Centre for Industrial Relations 1971)

Agnihotri S B, ‘Missing Females: a Disaggregated Analysis’ [1995] *Economic and Political Weekly* 2075

Agrawal S; and Unisa S, ‘Discrimination from Conception to Childhood: A Study of Girl Children in Rural Haryana, India’ in Attane I; and Guilmoto Z (eds), ‘Watering the Neighbour’s Garden: The Growing Demographic Female Deficit in Asia’ (Paris Committee for International Cooperation in National Research in Demography 2007)

Allen M, *Criminal Law*, (10th edn, Oxford University Press 2009)

Almond D; Edlund L; and Milligan K, *Son Preference and the Persistence of Culture: Evidence from Asian Immigrants to Canada*, (Working Paper 15391, Massachusetts National Bureau of Economic Research October 2009)

<<http://cid.bcrp.gob.pe/biblio/Papers/NBER/2009/Octubre/w15391.pdf>> accessed on 26 August 2013

Anitha S; Bharadwaj R; Devika J; Krishnan, R; Nisha P R; Praveena K P; Radhakrishnan, R; Irudaya Rajan, S; Raj, R; Rajasree, A K; Santhy, S; Thampi, Binitha V; and Zacharias, U, *Gendering Governance or Governing Women? Politics, Patriarchy, and Democratic Decentralisation in Kerala State, India*, (Final Report, Kerala Centre for Development Studies 2008) <http://gender-is-citizenship.net/sites/default/files/GenderingGovernance_Kerala.pdf> accessed on 26 August

2013

Arnold F; Kishor S; Roy T K, 'Sex-Selective Abortions in India' (2002) 28(4) *Population and Development Review* 759

Arnstein S R, 'A Ladder of Citizen Participation' (1969) 35(4) *Journal of the American Planning Association* 216

Arokiasamy P, 'Regional Patterns of Sex Bias and Excess Female Child Mortality in India' (2002) 59(6) *Population (English edition)* 833

— — 'Sex Ratio at Birth and Excess Female Child Mortality in India: Trends, Differentials and Regional Patterns' (2004) 59(6) *Population* 833, also in Attane I; and Guilmoto C Z (eds), 'Watering the Neighbour's Garden: The Growing Demographic Female Deficit in Asia' (Paris Committee for International Cooperation in National Research in Demography 2007) <http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012

Ashworth A, *Principles of Criminal Law*, (6th edn, Oxford University Press 2009)

Attane I; and Guilmoto C Z, 'Watering the Neighbour's Garden: the Growing Demographic Female Deficit in Asia', (Paris Committee for International Cooperation in National Research in Demography 2007) <http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012

Baetens P, 'HLA-Matched Embryos Selected for Siblings Requiring Haematopoietic Stem Cell Transplantation: a Psychological Perspective' (2005) 10 *Reproductive Biomedicine Online* 154

Baldwin T, 'Reproductive Liberty and Elitist Concept: Reply to John Harris' (2005) 31 *Journal of Medical Ethics* 288

Barnett H, *Introduction to Feminist Jurisprudence* (Cavendish Publishing Limited 1998)

Batty D, 'Jeremy Hunt Steps in After CPS Decides not to Prosecute Abortion Doctors' *The Guardian* (5 September 2013) <www.theguardian.com/world/2013/sep/05/jeremy-hunt-cps-not-prosecute-abortion-doctors> accessed on 5 September 2013

Bayles M, 'Harm to the Unconceived' (1976) 5(3) *Philosophy and Public Affairs* 292

Beauchamp T L; and Childress J F, *Principles of Biomedical Ethics* (6th edn, Oxford University Press 2009)

Benhabib S; and Cornell D (eds), *Feminism as a Critique: Essays on the Politics of Gender in Late-Capitalist Societies* (Polity Press 1987)

Berkowitz J M; and Snyder J W, 'Racism and Sexism in Medically Assisted Conception' (1998) 12(1) *Bioethics* 25

Beyleveld D; and Brownsword R, *Human Dignity in Bioethics and Biolaw* (Oxford University Press 2001)

— — and Pattinson S, 'Proportionality under Precaution: Justifying Duties to Apparent Non-Agents' (unpublished)

— — and Pattinson S, 'Defending Moral Precaution as a Solution to the Problem of Other Minds' (2010) 23 *Ratio Juris* 258

Bhachu P, *Twice Migrants: East African Sikh Settlers in Britain*, (Tavistock 1985)

— — 'Home and Work: Sikh women in Britain' in Bhachu P; and Westwood S (eds), *Enterprising Women: Ethnicity Economy and Gender Relations* (Routledge 1988)

— — 'Ethnicity Constructed and Reconstructed: the Role of Sikh Women in Cultural Elaboration and Educational Process in Britain' (1989) 3 *Gender and Education* 147

— — 'Multiple migrants and multiple diasporas' in Singh P; and Thandi S S (eds), *Punjabi Identity in a Global Context* (Oxford University Press 1999)

Bhargava P M, 'Response to 'No Country is an Island: Comment on the House of Commons Report Human Reproductive Technologies and the Law'' (2005) 11 *Reproductive Biomedicine Online* 12

Birk D, 'The Reform of the Human Fertilisation and Embryology Act 1990' (2005) 35 *Family Law Journal* 563

Booth B E; Verma M; Beri R S, 'Fetal Sex Determination in Infants in Punjab, India: Correlations and Implications' (1994) 309(6994) *British Medical Journal* 1259

Bose A, 'Fighting Female Foeticide: Growing Greed and Shrinking Child Sex Ratio' (2001) 36 *Economic and Political Weekly* 3427

Boseley S, 'Call for Ban on Sex Choice Clinics' 13th December 2002 *The Guardian* <www.theguardian.com/uk/2002/dec/13/gender.genetics> accessed on 19th February 2014

— — 'Public Outrage prompts Ban on Baby Sex Selection' (12th November 2003) *The Guardian* <www.theguardian.com/science/2003/nov/12/genetics.medicineandhealth> accessed on 19th February 2014

— — 'Ethics Row as Choosing Baby's Sex Splits MPs' *The Guardian* (24 March 2005) <www.guardian.co.uk/science/2005/mar/24/ethicsofscience.sciencenews/print> accessed on 25 August 2013

Bourne K; and Walker G M, 'The Differential Effect of Mothers' Education on Mortality of Boys and Girls in India' (1991) 45(2) *Population Studies* 203

- Bowie C; Richardson A; and Sykes W, 'Consulting the Public about Health Service Priorities' (1995) 311 *British Medical Journal* 1155
- Boyle R; and Savulescu J, 'Ethics of Using Preimplantation Genetic Diagnosis to Select a Stem Cell Donor for an Existing Person' (2001) 323 *British Medical Journal* 1240
- Braude P; Pickering S; Flinter F; and Mackie Ogilvie C, 'Preimplantation Genetic Diagnosis (2002) 3 *Nature Reviews: Genetics* 941
- Brazier M, 'Reproductive Rights: Feminism or Patriarchy?' in Harris J; and Holm S (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Clarendon Press 1998) — — 'Regulating the Reproduction Business' (1999) 7 *Medical Law Review* 166
- Bulmiller E, *May You be the Mother of a Hundred Son: A Journey Among Women in India* (Penguin Books 1990)
- Burholt V; Wenger C; and Shah Z, *Families and Migration: Older People from South Asia: Older Punjabi Immigrants in Birmingham* (2002) United Kingdom Regional Report number 2 Department for International Development Project
<http://r4d.dfid.gov.uk/PDF/Outputs/Mis_SPC/R7655PunjabiUKreport.pdf> accessed on 15 December 2012
- Buxton J, 'Permission for Another UK 'Saviour Sibling' Granted' (5 May 2006) *Bionews* 357
<www.bionews.org.uk/page_12710.asp> accessed on 26 August 2013
- Callus T, 'Patient Perception of the Human Fertilisation and Embryology Authority' (2007) 15 *Medical Law Review* 62
- Campbell T; and Cabrera L, 'The Weak Moral Basis for Strong PGD Regulation' in McLean S A M; and Elliston S (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013)
- Chalmers R, 'Regulatory Legitimacy: the Case for Controlling and Restricting Access to PGD for Sex-Selection Purposes' in McLean S A M; and Elliston S (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013)
- Clarkson C M; Keating H M; and Cunningham S R, *Clarkson and Keating Criminal Law* (7th edn, Sweet and Maxwell 2010)
- Coale A J, 'Excess Female Mortality and the Balance of the Sexes: an Estimate of the Number of 'Missing Females'' (1991) 17 *Population and Development Review* 517
- Coleman J, 'Clinics Granting Sex-Selection Abortions to be Investigated by Health Officials' *The Guardian* (23 February 2012)

<www.guardian.co.uk/world/2012/feb/23/sex-selection-abortions-investigated> accessed on 25 August 2013

Converse P E, 'Attitudes and Non-Attitudes: Continuation of a Dialogue' in Tufte E R (ed), *The Quantitative Analysis of Social Problems* (London Addison-Wesley Sage Publications 1970)

Cook R; Dickens B; and Fathalla M, *Reproductive Health and Human Rights* (Clarendon Press Oxford University Press 2003)

Cornell D, *The Imaginary Domain: Abortion, Pornography and Sexual Harassment* (Routledge 1995)

— — *At the Heart of Freedom, Feminism, Sex and Equality* (Princeton University Press 1998)

— — *Between Women and Generations, Legacies of Dignity* (Palgrave 2002)

Craig O, 'Why We Gave Birth to a Saviour Sibling' *The Telegraph* (26 December 2010) <www.telegraph.co.uk/health/children_shealth/8224541/Why-we-gave-birth-to-a-saviour-sibling.html#> accessed on 25 August 2013

Croll E, *Endangered Daughters: Discrimination and Development in Asia* (Routledge 2000)

Crosby N J; Kelly J M; and Schaefer P, 'Citizens Panels: A New Approach to Citizen Participation' (1986) 46 *Public Administration Review* 170

Culley L; and Hudson N, 'Using Focus Groups with Minority Ethnic Communities: Researching Infertility in British South Asian Communities' (2002) 17(1) *Qualitative Health Research* 102

— — 'Commonalities, Differences and Possibilities: Culture and Infertility in British South Asian Communities' in Culley L; Hudson N; and Van Rooij F (eds), *Marginalized Reproduction, Ethnicity, Infertility and Reproductive Technologies* (Earthscan 2009)

— — Rapport F; Katbamna S; Johnson M, 'A Study of the Provision of Infertility Services to South Asian Communities' (Abridged version De Montford University May 2004) <www.dmu.ac.uk/about-dmu/academic-staff/health-and-life-sciences/lorraine-culley/lorraine-culley.aspx> accessed on 1 July 2012

Dahl E, 'Procreative Liberty: the Case for Preconception Sex Selection' (2003) 7 *Reproductive BioMedicine Online* 380 <www.ncbi.nlm.nih.gov/pubmed/14656397> accessed on 26 August 2013

— — 'The Presumption in Favour of Liberty: A Comment on the HFEA's Public Consultation on Sex Selection' (2004) 8 *Reproductive Biomedicine Online* 266 <www.ncbi.nlm.nih.gov/pubmed/15038888> accessed on 26 August 2013

— — 'No Country is an Island: Comment on the House Of Commons Report Human Reproductive Technologies and the Law' (2005) 11 *Reproductive BioMedicine Online* 10

- <www.ncbi.nlm.nih.gov/pubmed/16102276> accessed on 26 August 2013
- — ‘Preconception Gender Selection: a Threat to the Natural Sex Ratio?’ (2005) 10 *Reproductive Biomedicine Online* 116 <<http://www.ncbi.nlm.nih.gov/pubmed/15820021>> accessed on 26 August 2013
- — ‘Sex Selection: Laissez Faire or Family Balancing?’ (2005) 13(1) *Health Care Analysis* 87
- — ‘The 10 Most Common Objections to Sex Selection and Why they are Far From being Conclusive: a Western Perspective’, (2007) 14 *Reproductive BioMedicine Online* 158 <[http://www.rbmojournal.com/article/S1472-6483\(10\)60752-3/abstract](http://www.rbmojournal.com/article/S1472-6483(10)60752-3/abstract)> accessed on 26 August 2013
- — and Hinsch K; Beutel M; and Brosig B, ‘Preconception Sex Selection for Non-Medical Reasons: a Representative Survey from the UK’ (2003) 18 *Human Reproduction* 2238
- Dai J, ‘Preconception Sex Selection: the Perspective of a Person of the Undesired Gender’ (2001) 1(1) *The American Journal of Bioethics* 37
- Das Gupta M, ‘Selective Discrimination against Female Children in Rural Punjab, India’ (1987) 13(1) *Population and Development Review* 77
- — ‘Death Clustering, Mother’s Education and the Determinants of Child Mortality in Rural Punjab, India’ (1990) 44 *Population Studies* 489
- — ‘Fertility Decline in Punjab, India: Parallels with Historical Europe’ (1995) 49 *Population Studies* 481
- — and Mari Bhat P N, ‘Fertility Decline and Increased Manifestation of Sex Bias in India’ (1997) 51 *Population Studies* 307
- — and Chung W; and Shuzhuo L, ‘Is there an Incipient Turnaround in Asia’s “Missing Girls” Phenomenon?’, (2009) The World Bank Development Research Group Policy Research Working Paper 4846 <<https://openknowledge.worldbank.org/handle/10986/4040>> accessed on 26 August 2013
- Davies C, ‘My Jamie is Not a ‘Designer Baby’: he has Given his Brother a New Life’ (21 June 2009) *The Observer* <www.theguardian.com/science/2009/jun/21/my-sisters-keeper-embryo-selection> accessed on 4 February 2014
- Davis D S, ‘The Parental Investment Factor and the Child’s Right to an Open Future’ (2009) 39 *Hastings Centre Report* 24
- Dickens B M, ‘Can Sex Selection be Ethically Tolerated?’ (2002) 28(6) *British Journal of Medical Ethics* 335
- — ‘Prenatal Sex and Race Determination is a Slippery Slope: Author’s Reply’ (2004) 30 *Journal of Medical Ethics* 376
- — ‘Preimplantation Genetic Diagnosis and ‘Saviour Siblings’ (2005) 88 *International Journal of Gynecology and Obstetrics* 91
- Dresser R, ‘Cosmetic Reproductive Service and Professional Integrity’ (2001) 1 *The*

Dubuc S; and Coleman D, 'An Increase in the Sex Ratio of Births to India-Born Mothers in England and Wales: Evidence for Sex-Selective Abortion' (2007) 33 *Population and Development Review* 383

Dudley Edwards R, 'The Dangers of 'Spare Part' Babies, *Daily Mail Online*, (1 August 2007) <www.dailymail.co.uk/news/article-472327/The-dangers-spare-babies.html> accessed on 25 August 2013

Duggal R, 'The Political Economy of Abortion in India: Cost and Expenditure Patterns' (2004) 12(24) *Reproductive Health Matters* 130

Dworkin G, *The Theory and Practice of Autonomy* (Cambridge University Press 1988)

Dworkin R, *Life's Dominion* (Alfred A Knopf 1993)

Dyal M, 'Sex Selection and Sex-Selective Abortion – Lessons to be Learnt from a Comparison Between the UK and the North-Indian State of Punjab' [2013] — *Medical Law International* — (forthcoming)

Dyson T; and Moore M, 'Gender Relations, Female Autonomy and Demographic Behaviour: Regional Contrasts within India' (1983) 9 *Population and Development Review* 35

Eapen M; and Kodoth P, 'Family Structure, Women's Education and Work: Re-Examining the High Status of Women in Kerala' in Mukhopadhyay S; and Sudarshan R (eds), *Tracking Gender Equity under Economic Reforms: Continuity and Change in South Asia* (New Delhi India Kali for Women and IDRC 2003)

Elliston S, 'The Welfare of the Child Principle and the Use of PGD: Selecting for Disability' in McLean S A M; and Elliston S (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013)

Emerson E; and Hatton C, *The Socio-Economic Circumstances of Families Supporting a Child at Risk of Disability in Britain in 2002* (Lancaster University 2005)

Feinberg J, *The Moral Limits of the Criminal Law, Harm to Others*, vol 1 (Oxford University Press 1984)
— — 'Wrongful Life and the Counterfactual Element in Harming' (1987) 4 *Social Philosophy and Policy* 145

Fenton R; and Dabell F, 'Time for Change (2)' [2007] *New Law Journal* 964

Fishkin J S, *The Voice of the People: Public Opinion and Democracy* (Yale University Press

1995)

— — and Luskin R C; and Jowell R, 'Deliberative Polling and Public Consultation' (2000) 53 *Parliamentary Affairs* 657

Forbes G, 'Women in Modern India' in Johnson G; Bayley C; and Richards J F (eds), *The New Cambridge History of India*, vol 4.2 (Cambridge University Press 1996)

Fox M, 'A Woman's Right to Choose?' in Harris J; and Holm S (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Clarendon Press 1998)

Freed S A; and Freed R S, 'Shanti Nagar: The Effects of Urbanization in a Village in North India: Social Organization' (1976) 53(1) *Anthropological Papers of the American Museum of Natural History* 11

Gajilan C A, 'Gender Selection a Reality, But is it Ethical?' *CNN International Online* (17 November 2005) <http://articles.cnn.com/2005-11-16/health/pgd.gender.selection_1_pgd-sperm-separation-fertility-institutes?_s=PM:HEALTH> accessed on 25 August 2013

George S M, 'Sex Selection/Determination in India: Contemporary Developments' (2002) 10(19) *Roundtable / Reproductive Health Matters* 190

— — and Abel R; and Miller B D, 'Female Infanticide in Rural South India' (1998) 12(3) *Women Studies* 18

Geraedts J; and De Wert G, 'Preimplantation Genetic Diagnosis' (2009) 76 *Clinical Genetics* 315

Gewirth A, *Reason and Morality* (University of Chicago Press 1978)

Ghosh S, 'Discrimination against the Female Child' (1990) 1(4) *Indian Journal of Maternal Child Health* 104

Gibson I, 'Science and Technology Report Opens Debate on Assisted Reproduction Laws' (29 March 2005) *BioNews* 301 <www.bionews.org.uk/page_37791.asp> accessed on 26 August 2013

Giddens A; Duneier M; Applebaum R P; and Carr D, *Introduction to Sociology*, (7th edn W W Norton and Co Inc 2009)

Gilbar R, 'Between Unconditional Acceptance and Responsibility: Should Family Ethics Limit the Scope of Reproductive Autonomy?' [2009] *Child and Family Law Quarterly* 309

Gill G K, 'Female Feticide as a Contemporary Cultural Practice in the Punjab' (1998) 23 *Dialectical Anthropology* 203

Gill M S, *Punjab Society: Perspectives and Challenges* (Concept Publishing Company 2003)

Glover J, *What Sort of People Should There Be?* (Harmondsworth Pelican 1984)

— — *Choosing Children, Genes, Disability and Design* (Clarendon Press 2006)

Goldscheider F, 'Interpolating Demography within Families and Households' (1995) 32 *Demography* 471

Good S (ed), *Violence Against Women* (Arihant Publications 1990)

Grewal J S, 'The Sikhs of the Punjab' in Johnson G; Bayley C; and Richards J F (eds), *The New Cambridge History of India*, vol 2.3 (Cambridge University Press 1990)

Guillot M, 'The Dynamics of the Population Sex Ratio in India, 1971-96' (2002) 56(1) *Population Studies* 56

Guilmoto C Z; and Attane I, 'The Geography of Deteriorating Child Sex Ratio in China and India', in Attane I; and Guilmoto C Z, 'Watering the Neighbour's Garden: the Growing Demographic Female Deficit in Asia', (Paris Committee for International Cooperation in National Research in Demography 2007)

<http://www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012

Guilmoto C Z, 'Characteristics of Sex-Ratio Imbalance in India, and Future Scenarios' (4th Asia Pacific Conference on Reproductive and Sexual Health and Rights, Hyderabad, India 29 – 31 October 2007) <<http://www.unfpa.org/gender/docs/studies/india.pdf>> accessed on 26 August 2013

Hansson S O, 'The Limits of Precaution' (1997) 2 *Foundations of Science* 293

Harris J, *Wonderwoman and Superman* (Oxford University Press 1992)

— — 'One Principle and Three Fallacies of Disability Studies' (2001) 27 *Journal of Medical Ethics* 383

— — 'Rights and Reproductive Choice' in Harris J; and Holm S (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Clarendon Press 1998)

— — 'No Sex Selection Please, We're British' (2005) 31 *Journal of Medical Ethics* 286

— — 'Sex Selection and Regulated Hatred' (2005) 31 *Journal of Medical Ethics* 291

Harris-Short S, 'Regulating Reproduction: Frozen Embryos, Consent, Welfare and the Equality Myth' in Smith S W; and Deazley R (eds), *The Legal, Medical and Cultural Regulation of the Body: Transformation and Transgression* (Ashgate Publishing 2009)

Harrison J; and W M, *Debt and Disability: The Impact of Debt on Families with Disabled Children* (York Contact Family and Family Fund 2004)

Haub C; and Sharma O P, 'India's Population Reality: Reconciling Change and Tradition' (2006) 61(3) *Population Bulletin* 7

Hayry M, 'Precaution and Solidarity' (2005) 14 *Cambridge Quarterly of Healthcare Ethics* 199

Herissone-Kelly P, 'Procreative Beneficence and the Prospective Parent' (2006) 32 *Journal of Medical Ethics* 166

— — 'The Prohibition of Sex Selection for Social Reasons in the United Kingdom: Public Opinion Trumps Reproductive Liberty?' (2006) 15 *Cambridge Quarterly of Healthcare Ethics* 261

Herring J, *Medical Law and Ethics*, (3rd edn Oxford University Press 2010)

Holm S, 'Pre-Implantation Genetic Diagnosis' in Harris J; and Holm S (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Clarendon Press 1998)

— — 'Like a Frog in Boiling Water: The Public, The HFEA and Sex Selection' (2004) 12 *Health Care Analysis* 27

— — and Coggon J, 'A Cautionary Note against 'Precautionary Reasoning' in Action Guiding Morality' (2009) 22 *Ratio Juris* 295

Holtug N, 'The Harm Principle' (2002) 5 *Ethical Theory and Moral Practice* 357

International Center for Research on Women, 'Role of Mothers-in-Law in Young Women's Reproductive Health: Evidence from Intervention Research in Rural Maharashtra, India' (ICRW 2001-2006) <www.icrw.org/files/images/Role-of-Mothers-in-Law-in-Young-Womens-Reproductive-Health-Evidence-from-Intervention-Research-in-Rural-Maharashtra-India.pdf> accessed on 27 August 2013

Jackson E, 'Conception and the Irrelevance of the Welfare Principle' (2002) 65(2) *The Modern Law Review* 176

— — 'Degendering reproduction?' (2008) 16 *Medical Law Review* 346

— — 'Statutory Regulation of PGD in the UK: Unintended Consequences and Future Challenges', in McLean S A M; and Elliston S (eds) *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013)

Jain T; Missmer S A; Gupta Raina S; Hornstein M D, 'Preimplantation Sex Selection Demand and Preferences in an Infertility Population' (2005) 83 *Fertility and Sterility* 649

Jeffery R and Jeffery P, *Don't Marry Me to a Plowman! Women's Everyday Lives in Rural North India* (Westview Press 1996)

— — and Lyon A, *Labour Pains and Labour Power: Women and Childbearing in India* (Zed Books 1989)

Jeffrey R, *The Decline of Nayar Dominance: Society and Politics in Travancore, 1847–1908* (Holmes and Meier Publishers Inc 1976)

John M E; Kaur R; Palriwala R; Raju S; Sagar A, 'Planning Families, Planning Gender: The Adverse Child Sex Ratio in Selected Districts of Madhya Pradesh, Rajasthan, Himachal Pradesh, Haryana and Punjab' (2008) New Delhi ActionAid
<www.cwds.ac.in/PlanningFamiliesPlanningGender.pdf> accessed on 26 August 2013

Jones O D, 'Controlling Consequences of Preconception Sex Selection' (2001) 1 *The American Journal of Bioethics* 19

Kahraman S, 'Are We Talking About the Butterflies or a Butterfly Effect?: Comment on 'No Country is an Island'' (2005) 11 *Reproductive Biomedicine Online* 14-15
<www.ncbi.nlm.nih.gov/pubmed/16102279> accessed on 26 August 2013

Kaiser M, 'The Precautionary Principle and its Implications for Science' (1997) 2 *Foundations of Science* 201

Kamm F M, *Creation and Abortion, a Study in Moral and Legal Philosophy* (Oxford University Press 1992)

Kane R, *Free Will and Values* (State University of New York 1985)

Kanellopoulou N, 'Sex Selection: Options for Regulation' (2004) 1(1) *SCRIPTed* 217
<www.law.ed.ac.uk/ahrc/script-ed/docs/sexselection.asp> accessed on 1 August 2013

Karpf A, 'We must not Pander to these Consumerist Fantasies of Sex Selection' 25th November 2006 *The Guardian*
<www.theguardian.com/lifeandstyle/2006/nov/25/familyandrelationships.family4> accessed on 19th February 2014

Katbamna S, *'Race' and Childbirth* (Open University Press 2000)

Kaur M, 'Female Feticide – a Sociological Perspective' (1993) 39(1) *Journal of Family Welfare* 40

Kelly N O, 'Some Socio-Cultural Correlates of Indian Sex Ratios: Case Studies of Punjab and Kerala' (PhD thesis, University of Pennsylvania 1975)

Kew S, *Handicap and Family Crisis* (Pitman 1975)

King D, 'The Case Against Sex Selection' (8 October 2003) *Bionews* 226
<www.bionews.org/page_37710.asp> accessed on 26 August 2013

- Kishwar M, 'Abortion of Female Foetuses: Is Legislation the Answer?' (1993) 2 *Reproductive Health Matters* 113
- Klasen S, 'Missing Women Reconsidered' (1994) 22 *World Development* 1061
— — and Wink C, "'Missing Women': Revisiting the Debate' (2003) 9 *Feminist Economics* 263
- Kodoth P, 'Producing Rationale for Dowry? Gender in the Negotiation of Exchange at Marriage in Kerala, South India' (2006) Asia Research Centre Working Paper 16 London School of Economics and Political Science <<http://eprints.lse.ac.uk/25193/>> accessed on 26 August 2013
- Kuhse H; and Singer P, *Should the Baby Live? The Problem of Handicapped Infants* (Oxford University Press 1985)
- Kumar A; and Devi R, 'Health of Women in Kerala: Current Status and Emerging Issues' (2010) Centre for Socio-Economic and Environmental Studies Working Paper number 23 <<http://csesindia.org/admin/modules/cms/docs/publication/24.pdf>> accessed on 26 August 2013
- Laing J A; and Oderberg D S, 'Artificial Reproduction, the 'Welfare Principle', and the Common Good' (2005) 13 *Medical Law Review* 328
- Lasslett P; and Runciman W (eds), *Philosophy, Politics, and Society* (4th edn Oxford University Press 1967)
- Leaf M J, *Information and Behaviour in a Sikh Village* (University of California Press 1972)
- Lee R G; and Morgan D, *Human Fertilisation and Embryology: Regulating the Reproductive Revolution* Oxford University Press 2001)
- Lee E, 'Tensions in the Regulation of Abortion in Britain' (2003) 30 *Journal of Law and Society* 532
- Lemons J; Shrader-Frecette K; and Cranor C, 'The Precautionary Principle: Scientific Uncertainty and Type I and Type II Errors' (1997) 2 *Foundations of Science* 207
- Levinson J; Mehra S; Levinson D; Chauhan A K; Koppe G; Bence B; and Almedom Astier M, 'Morinda Revisited: Changes in Nutritional Well-Being and Gender Differences After 30 Years of Rapid Economic Growth in Rural Punjab', (2004) 25 *Food Nutr Bull* 221
- Levinson F J, 'An Economic Analysis of Malnutrition Among Young Children in Rural India', (PhD thesis, Cornell University 1972)

Lewis O, *Village Life in Northern India: Studies in a Delhi Village* (Random House Vintage Books 1965)

Liu P; and Rose A G, 'Social Aspects of >800 Couples Coming Forward for Gender Selection of their Children' (1995) 10 *Human Reproduction* 968

— — 'Sex Selection: the Right Way Forward' (1996) *Human Reproduction* 2343

Malhi P; and Singh S, 'Son Preference and Reproductive Behavior in Rural Punjab' (1995) 16(2) *Guru Nanak Journal of Sociology* 31

Malhotra A; Vanneman R; and Kishor S, 'Fertility, Dimensions of Patriarchy and Development in India' (1995) 21(2) *Population and Development Review* 281

Malpani A, 'PGD and Sex Selection' (2002) 17 *Human Reproduction, Letters to the Editors* 517

Malpani A, 'Sex-Selection by IVF: the Freedom to Choose' (1998) 6(2) *Indian Journal of Medical Ethics* 54

Mari Bhat P N, 'On the Trail of Missing Indian Females: I: Search for Clues, II: Illusion and Reality' (2002) 37 *Economic and Political Weekly* 5105

— — and Francis Xavier A J, 'Factors Influencing the Use of Prenatal Diagnostic Techniques and Sex Ratio at Birth in India' in Attane I; and Guilmoto C Z (eds), 'Watering the Neighbour's Garden: The Growing Demographic Female Deficit in Asia', (Paris Committee for International Cooperation in National Research in Demography 2007)

Martin P H, 'If you Don't Know How to Fix it, then Please Stop Breaking it' (1997) 2 *Foundations of Science* 263

Mason A; and Barnett N, 'Sex Selection with Biased Technologies and its Effect on Population Sex Ratios' (1977) 14(3) *Demography* 285

Masterton A, 'Gender Selection and the 'Human Reproductive Technologies and the Law' Report: a Personal View' (7 April 2005) *Bionews* 226
<www.bionews.org.uk/page_37794.asp> accessed on 13 August 2013

McCarthy D, 'Why Sex Selection should be Legal' (2001) 27 *Journal of Medical Ethics* 302

McDougall R, 'Acting Parentally: An Argument Against Sex Selection' (2005) 31 *Journal of Medical Ethics* 601

McKie R, 'Doctors Plead for 'Saviour Siblings'' (18 July 2004) *The Observer*
<www.theguardian.com/science/2004/jul/18/genetics.health> accessed on 4 February 2014

— — ‘We'll Try Abroad if Lords Rule 'No' - Gene Baby Couple’ (6 March 2005) *The Observer* <www.theguardian.com/science/2005/mar/06/genetics.health> accessed on 4 February 2014

McLean S A M, ‘Why have a Free Vote on ‘Saviour Siblings’?’ (9 April 2008) *BioNews* <www.bionews.org.uk/page_37987.asp?hlight=saviour+sibling> accessed on 3 February 2014

— — and Elliston S (eds), *Regulating Pre-Implantation Genetic Diagnosis: a Comparative and Theoretical Analysis* (Routledge 2013)

McMohan C A, ‘Community Concerns about Sex Selection: Research as a Way Forward – Response to Edgar Dahl’s ‘The Presumption in Favour of Liberty’ (2004) 8 *Reproductive Biomedicine Online* 272 <www.ncbi.nlm.nih.gov/pubmed/15038893> accessed on 26 August 2013

Medical Practitioners Tribunal Service, ‘Information for Doctors whose Cases are Due to be Heard by the Fitness to Practise Panel’ (June 2013) General Medical Council <www.gmc-uk.org/463_MPTS_information_for_doctors.pdf_48806882.pdf> accessed on 26 August 2013

Mehta A K, ‘Gender Responsive Budgeting: Issues related to the Health Sector in Punjab’ (2011) New Delhi Indian Institute of Public Administration
<http://pbplanning.gov.in/HDR/Gender%20Responsive%20Budgeting%20in%20Health%20in%20Punjab%20sent_pending.pdf> accessed on 26 August 2013

Middendorf G; and Busch L, ‘Inquiry for the Public Good: Democratic Participation in Agricultural Research’ (1997) 14 *Agriculture and Human Values* 45

Mill J S, *On Liberty and Other Writings* (Cambridge University Press 1989)

Miller B D, *The Endangered Sex: Neglect of Female Children in Rural North India* (Cornell University Press 1981)

— — ‘Female Infanticide and Child Neglect in Rural North India’ in Scheper-Hughes N (ed) *Child Survival* (Dordrecht D Reidel Publishing Co 1987)

Mishra U S; Dilip T R; George A; and Kumar A, ‘Declining Child Sex Ratio (0-6 years) in India: A Review of Literature and Annotated Bibliography’ (2009) Thiruvananthapuram Centre for Development Studies <<http://india.unfpa.org/drive/Bibloigraphy.pdf>> accessed on 26 August 2013

Moore E P, *Gender, Law, and Resistance in India* (University of Arizona Press 2001)

Morgan D, ‘Frameworks of Analysis for Feminisms’ Account of Reproductive Technology’ in Sheldon S; and Thompson M (eds), *Feminist Perspectives on Healthcare Law* (Cavendish Publishing Limited 1998)

Murphy C, 'Catholic Pressure on Fertility Bill' (11 March 2008) *BBC News*
<<http://news.bbc.co.uk/1/hi/health/7289786.stm>> accessed on 9th March 2014

Murthi M; Guio A; and Dreze J, 'Mortality, Fertility and Gender Bias in India: a District Level Analysis' (1995) 21 *Population and Development Review* 745

Nair M K C; Sumaraj L; Padmamohan L; Radhakrishnan R; Rajasenan Nair V; George B; and Kumar G S, 'Parenting Practices in Kerala: A Cross-Sectional Study', (2007) 2(1) *Vulnerable Children and Youth Studies* 71

Nanda B, 'Campaign against Female Foeticide: Perspectives, Strategies and Experiences' in Patel T (ed), *Sex Selective Abortion in India: Gender, Society and New Reproductive Technologies* (Sage Publications 2006)

Newell C; and Watt H, 'Sex-Selection Abortions are 'Widespread'' (24 February 2012)
<www.telegraph.co.uk/health/healthnews/9104994/Sex-selection-abortions-are-widespread.html> accessed on 25 August 2013

— — and Winnett R, 'Abortion Investigation: Doctor Caught Falsifying Sex Selection Paperwork' *The Telegraph* (24 February 2012)
<www.telegraph.co.uk/health/healthnews/9102232/Abortion-investigation-doctor-caught-falsifying-sex-selection-paperwork.html> accessed on 25 August 2013

Nozick R, *Anarchy, State, and Utopia* (Basil Blackwell Basic Books Inc 1974)

Oberdiek J, 'Reasons, Motivation, and Sexism' (2001) 1(1) *The American Journal of Bioethics* 38

One Plus One, 'Growing Together, or Drifting Apart' (2008) One Plus One Ten Alps Publishing <www.oneplusone.org.uk/content_topic/having-problems/bringing-up-a-child-with-a-disability/> accessed on 5 February 2012

Osmani S; and Sen A, 'The Hidden Penalties of Gender Inequality: Fetal Origins of Ill-Health' (2003) 1 *Economics and Human Biology* 105

Ott K, 'Basic Topics of Future Ethics' in Ott K; and Thapa P P (eds), *Greifswald's Environmental Ethics* (Steinbecker Verlag Ulrich Rose Greifswald 2003)
— — 'The Spectrum of Environmental Values' in Ott K; Thapa P P (eds), *Greifswald's Environmental Ethics* (Steinbecker Verlag Ulrich Rose Greifswald 2003)

Parfit D, *Reasons and Persons* (Oxford University Press 1984)

Parikh F, 'Sex-Selection by IVF: Detrimental to Indian Women' (1998) 6(2) *Indian Journal of Medical Ethics* 55

Patel V, 'Sex Determination and Sex-Preselection Tests in India: Modern Techniques of Femicide' (1989) 21(5) *Bulletin of Concerned Asian Scholars* 2

Pathak P K; and Singh A, 'Trends in Malnutrition among Children in India: Growing Inequalities Across Different Economic Groups' (2011) 73 *Social Sciences and Medicine* 576

Patty A, 'Please Save Me, Pleads Bone Marrow Boy, 5' (25 November 2004) *The Times* <www.thetimes.co.uk/tto/health/article1881210.ece> accessed on 4 February 2014

Pembrey M, 'Social Sex Selection by Pre-Implantation Genetic Diagnosis' (2002) 4 *Reproductive BioMedicine Online* 157 <www.ncbi.nlm.nih.gov/pubmed/12470579> accessed on 26 August 2013

Pennings G, 'Family Balancing as a Morally Acceptable Application of Sex Selection' (1996) 11 *Human Reproduction* 2339

— — 'Saviour Siblings: Using Preimplantation Genetic Diagnosis for Tissue Typing' (2004) 1266 *International Congress Series* 311

— — 'Sex Selection, Public Policy and the HFEA's Role in Political Decision Making – Response to Edgar Dahl's 'The Presumption in Favour of Liberty' (2004) 8 *Reproductive Biomedicine Online* 268 <www.ncbi.nlm.nih.gov/pubmed/15038890> accessed on 26 August 2013

— — 'A 'Social Compensation Tax' for Social Sexing' (11 April 2005) *BioNews* 303 <www.bionews.org.uk/page_37795.asp> accessed on 26 August 2013

— — 'Questioning the Assumptions in the Debate on Assisted Reproduction: Comment on the House of Commons Report Human Reproductive Technologies and the Law' (2005) 11 *Reproductive BioMedicine Online* 152 <www.ncbi.nlm.nih.gov/pubmed/16168206> accessed on 26 August 2013

Petchesky R, 'Reproductive Freedom: Beyond "a Women's Right to Choose"' (1980) 5 *Sigs: Journal of Women in Culture and Society* 661
— — *Abortion and Woman's Choice* (Verso 1986)

Potdar R, 'Son Preference and its Impact on Fertility in India: A Comparative Study of Fourteen Indian States' (PhD thesis, Cornell University 2003)

Pradhan R P, 'Gender Development in Education and Health: a Study of Indian States' (2007) 9(1) *Journal of Health and Management* 1

Puri S; Adams V; Ivey S; and Nachtigall R D, "'There is Such Thing as Too Many Daughters, but Not Too Many Sons": A Qualitative Study of Son Preference and Fetal Sex Selection among Indian Immigrants in the United States' (2011) 72 *Social Science and Medicine* 1169

Puri S; Bhatia V; and Swami H M, 'Gender Preference and Awareness Regarding Sex

Determination among Married Women in Slums of Chandigarh' (2007) 32(1) *Indian Journal of Community Medicine* 60

Rai M K; and Vailaya J, 'The National Nutrition Scene: an Analysis of Results of Two National Surveys' (1996) 33 *Indian Pediatrics* 305

Randerson J, 'MPs set to Back New Embryo Research Laws, (12 May 2008) *The Guardian* <www.theguardian.com/science/2008/may/12/medicalresearch.law> accessed on 4 February 2014

Rajan I; Sudha S; and Mohanachandran P, 'Development, Fertility Decline and Worsening Son preference in India: Is Kerala no longer an Exception?' [2000] *Development and Change* 1085

Renjini D, *Nayar Women Today: Disintegration of Matrilineal System and the Status of Nayar Women in Kerala* (Classical Publishing Company 2000)

Retherford R D; and Roy T K, 'Factors Affecting Sex Selective Abortion in India and in 17 Major States' (2003) National Family Health Survey Subject Reports number 21 <<http://scholarspace.manoa.hawaii.edu/handle/10125/3488>> accessed on 26 August 2013

Rhodes R, 'Acceptable Sex Selection' (2001) 1(1) *The American Journal of Bioethics* 31

Robertson J A, 'Procreative Liberty and the Control of Conception, Pregnancy, and Childbirth' (1983) 69 *Virginia Law Review* 405

— — *Children of Choice: Freedom and the New Reproductive Technologies* (Princeton University Press 1994)

— — 'Preconception Gender Selection' (2001) 1(1) *American Journal of Bioethics* 2

— — 'Gender Variety as a Valid Choice: a Comment on the HFEA – Response to Edgar Dahl's 'The Presumption in Favour of Liberty'' (2004a) 8 *Reproductive Biomedicine Online* 270 <www.ncbi.nlm.nih.gov/pubmed/15038891> accessed on 26 August 2013

— — 'Procreative Liberty and Harm to Offspring in Assisted Reproduction' (2004b) 30 *American Journal of Law and Medicine* 7

— — 'Ethics and the Future of Preimplantation Genetic Diagnosis' (2005) 10 *Ethics, Law and Moral Philosophy of Reproductive Biomedicine* 97

— — 'Assisting Reproduction, Choosing Genes, and the Scope of Reproductive Freedom' (2008) 76 *George Washington Law Review* 1490

Rowe G; and Frewer L J, 'Public Participation Methods: a Framework for Evaluation' (2002) 25(1) *Science, Technology and Human Value* 3

Rowland R, 'Motherhood, Patriarchal Power, Alienation and the Issue of 'Choice' in Sex Preselection' in Corea G; Duelli Klein R; Hanmer J; Holmes H B; Hoskins B; Kishwar M; Raymond J; Rowland R; and Steinbacher R, *Man-Made Women, how New Reproductive*

Technologies affect Women, (Hutchinson and Co Publishers Ltd 1985)

Royal College of Physicians, 'Women and Medicine, the Future: Summary of Findings from Royal College of Physicians Research' (June 2009)

<www.rcplondon.ac.uk/sites/default/files/documents/women-and-medicine-summary.pdf>
accessed on 28 August 2013

Ruddick W, 'Prejudice against 'Unbalanced Families'' (2001) 1(1) *The American Journal of Bioethics* 34

Sachar R K; Sehgal R; Verma J; Prakesh V; and Singh W P, 'The Female Child – a Picture of Denials and Deprivations' (1990) 1(4) *Indian Journal of Maternal Child Health* 124

Sandel M J, *The Case against Perfection: Ethics in the Age of Genetic Engineering* (Belknap Press of the Harvard University Press 2007)

Sartre J, *Being and Nothingness* (Washington Square Press 1943)

Savulescu J, 'Procreative Beneficence: Why we should Select the Best Children' (2001) 15 *Bioethics* 413

— — 'Deaf Lesbians, Designer Disability and the Future of Medicine' (2002) 325 *British Medical Journal* 771

Saxena N C, 'Women, Land and Agriculture in Rural India' (2011) United Nations Entity for Gender Equality and the Empowerment of Women)

<www.unwomensouthasia.org/assets/UN_Women_Land_Agriculture_in_Rural_India.pdf>
accessed on 26 August 2013

Schulman J D, 'An Attempted Suppression of Liberty' (2004) 8 *Reproductive Biomedicine Online* 374 <www.ncbi.nlm.nih.gov/pubmed/15149557> accessed on 26 August 2013

— — 'Further Comment on the House of Commons Report Human Reproductive Technologies and the Law' (2005) 11 *Reproductive Biomedicine Online* 158

<www.ncbi.nlm.nih.gov/pubmed/16168208> accessed on 26 August 2013

Schwartz B, 'The Tyranny of Choice' (2004) *Scientific American* 71

— — *The Paradox of Choice: Why More is Less* (Harper Collins Publisher 2005)

Scott K, 'IVF Selection Still Off Limits' (19 October 2000) *The Guardian*

<www.theguardian.com/science/2000/oct/19/genetics.uknews> accessed on 29 August 2013

Scott R, 'Choosing between Possible Lives: Legal and Ethical Issues in Preimplantation Genetic Diagnosis' (2002) 26(1) *Oxford Journal of Legal Studies* 153

— — 'The Uncertain Scope of Reproductive Autonomy in Preimplantation Genetic Diagnosis and Selective Abortion' (2005) 13 *Medical Law Review* 291

Scully J L; Shakespeare T; and Banks S, 'Gift Not Commodity? Lay People Deliberating Social Sex Selection' (2006) 28 *Sociology of Health and Illness* 749

Sen A, *Commodities and Capabilities* (North Holland 1985)

— — 'Women's Survival as a Developmental Problem' (1989) 4(2) *Bulletin of the American Academy of Arts and Sciences* 14

— — 'More than 100 Million Women are Missing' (1990) 37(20) *New York Review of Books* 61

— — 'Missing Women: Social Inequality Outweighs Women's Survival Advantage in Asia and North Africa' (1992) 304 *British Medical Journal* 587

— — 'Many Faces of Gender Inequality' (2001) 18(22) *Frontline* 4

— — 'Missing Women – Revisited' (2003) 327 *British Medical Journal* 1297

Sermon K; Van Steirteghem A; and Liebaers I, 'Preimplantation Genetic Diagnosis' (2004) 363 *The Lancet* 1633 <<http://web.mit.edu/7.72/restricted/readings/PGDreview.pdf>> accessed on 26 August 2013

Serour G I, 'Reproductive Choice: A Muslim Perspective' in Harris J; and Holm S (eds), *The Future of Human Reproduction: Ethics, Choice, and Regulation* (Clarendon Press 1998)

Sharp R R; McGowan M L; Verma J A; Landy D C; McAdoo S; Carson S A; Simpson J L; and McCullough L B, 'Moral Attitudes and Beliefs among Couples Pursuing PGD for Sex Selection' (2010) 21 *Reproductive BioMedicine Online* 838
<www.ncbi.nlm.nih.gov/pubmed/21051290> accessed on 26 August 2013

Sheldon S, *Beyond Control, Medical Power and Abortion Law* (Pluto Press 1997)

— — 'Abortion for reason of sex: correcting some basic misunderstandings of the law' (2012) 37 *Abortion Review* 2

— — 'Is it Illegal to Abort an Unborn Baby Because of its Sex? Not Necessarily', *The Guardian*, (28 February 2012) <www.theguardian.com/law/2012/feb/28/is-sex-selective-abortion-illegal>

accessed on 25 August 2013

— — 'The Abortion Act's Paternalism Belongs to the 1960s' *The Guardian* (22 March 2012) <www.guardian.co.uk/law/2012/mar/22/abortion-act-needs-reform> accessed on 25 August 2013

— — and Wilkinson, Stephen, 'Should Selecting Saviour Siblings be Banned?', (2004) 30 *Journal of Medical Ethics* 533

Shenfield F, 'Procreative Liberty, or Collective Responsibility? Comment on the House of Commons Report Human Reproductive Technologies and the Law, and on Dahl's Response' (2005) 11 *Reproductive Biomedicine Online* 155
<www.ncbi.nlm.nih.gov/pubmed/16168207> accessed on 26 August 2013

Simester A P; Spencer J R; Sullivan R; and Virgo G J, *Simester and Sullivan's Criminal Law: Theory and Doctrine* (4th edn, Hart Publishing 2010)

Smith R C, 'Less is More: Bodily Integrity Identity Disorder' in Smith S W; and Deazley R (eds), *The Legal, Medical and Cultural Regulation of the Body: Transformation and Transgression* (Ashgate Publishing 2009)

Smith S W, 'Precautionary Reasoning in Determining Moral Worth' in Freeman M (ed), *Law and Bioethics, Current Legal Issues*, vol 11 (Oxford University Press 2008)

Sparrow R; and Cram D, 'Saviour Embryos? Preimplantation Genetic Diagnosis as a Therapeutic Technology' (2010) 20 *Reproductive Biomedicine Online* 667
<<http://www.ncbi.nlm.nih.gov/pubmed/20189455>> accessed 26 August 2013

Standing H, *Punjabi Kinship and Marriage* (Hindustan Publishing Corporation 1981)

Stanworth M (ed), *Reproductive Technologies, Gender, Motherhood and Medicine* (Polity Press and Basil Blackwell Ltd 1987)

Statham H; Green J; Snowden C; and France-Dawson M, 'Choice of Baby's Sex' (1993) 341 *Lancet* 564 <[www.thelancet.com/journals/lancet/article/PII0140-6736\(93\)90331-A/fulltext](http://www.thelancet.com/journals/lancet/article/PII0140-6736(93)90331-A/fulltext)> accessed on 26 August 2013

Stattin H; and Klackenberg-Larsson I, 'The Short and Long-Term Implications for Parent-Child Relations of Parents' Prenatal Preferences for their Child's Gender' (1991) 27 *Developmental Psychology* 141

Steinbock B; and McClamrock R, 'When is Birth Unfair to the Child?' (1994) 6 *Hastings Centre Report* 15

— — 'Sex Selection: Not Obviously Wrong' (2002) 32 *Hastings Centre Report* 23

Strong C, 'Can't you Control your Children?' (2001) 1(1) *The American Journal of Bioethics* 12

Stychin C F, 'Body Talk: Rethinking Autonomy, Commodification and the Embodied Legal Self' in Sheldon S; and Thompson M, *Feminist Perspectives on Healthcare Law* (Cavendish Publishing Limited 1998)

Subramanian S V; Selvaraj S S, 'Social Analysis of Sex Imbalance in India: Before and After the Implementation of the Pre-Natal Diagnostic Techniques (PNDT) Act' (2009) 63 *Journal of Epidemiology* 245

Sudha S; and Rajan I, 'Female Demographic Disadvantage in India 1981-1991' (1999) 30 *Development and Change* 598

— — and Khanna S; and Srivastava R, 'Is Son Preference Emerging among the Nayars of Kerala in South India?' in Attane I; and Guilmoto C Z (eds), 'Watering the Neighbour's Garden: The Growing Demographic Female Deficit in Asia' (Paris Committee for International Cooperation in National Research in Demography 2007)
<www.cicred.org/Eng/Publications/pdf/BOOK_singapore.pdf> accessed on 15 December 2012

Ten C L, 'The Use of Reproductive Technologies in Selecting the Sexual Orientation, the Race, and the Sex of Children' (1998) 12(1) *Bioethics* 45

Tizzard J, 'Sex Selection, Child Welfare and Risk: A Critique of the HFEA's Recommendations on Sex Selection' (2004) 12 *Health Care Analysis* 61
— — 'HFEA comes under Pressure on 'Saviour Siblings'' (13 April 2004) *BioNews*
<www.bionews.org.uk/page_37735.asp?hlight=saviour+sibling> accessed on 3 February 2014

Vaughan L, *Bioethics, Principles, Issues and Cases* (Oxford University Press 2010)

Vishwanath L S, 'Female Infanticide: The Colonial Experience' (2004) 39 *Economic and Political Weekly* 2313

Von Hirsch A, 'Extending the Harm Principle: 'Remote' Harms and Fair Imputation' in Simester A P; and Smith A T H (eds), *Harm and Culpability* (Clarendon Press 1996)

Waldby C, 'Literature Review and Annotated Bibliography: Social and Ethical Aspects of Sex Selection' (Prepared for the Human Fertilisation and Embryology Authority's Review 2002) <www.hfea.gov.uk/docs/Appendix_D_-_Social_and_Ethical_Literature_Review.pdf> accessed on 26 August 2013

Waldron I, 'Sex Differences in Human Mortality' (1983) 17 *Social Science and Medicine* 321
— — 'The Contribution of Smoking to Sex Differences in Mortality' (1986) 101 *Publ Hlth Rep* 163
— — 'Recent Trends in Sex Mortality Ratios for Adults in Developed Countries' (1993) 36 *Social Science and Medicine* 451

Warren M A, *Moral Status, Obligations to Persons and Other Living Things* (Oxford University Press 1997)

Watt H, 'Preimplantation Genetic Diagnosis: Choosing the 'Good Enough' Child' (2004) 12(1) *Healthcare Analysis* 51

Webb T, 'Department of Health Review of the HFE Act' (16 August 2005) *Bionews* 321
<www.bionews.org.uk/page_37817.asp> accessed on 26 August 2013

Webler T, ““Right” Discourse in Citizen Participation: an Evaluative Yardstick’, in Renn O; Webler T; and Wiedemann P (eds), *Fairness and Competence in Citizen Participation: Evaluating Models for Environmental Discourse* (Kluwer Academic 1995)

Wells C; and Quick O, *Lacey, Wells and Quick, Deconstructing Criminal Law* (4th edn Cambridge University Press 2010)

Wertz D, ‘Preconception Sex Selection: a Question of Consequences’ (2001) (1) *The American Journal of Bioethics* 36

Westra L, ‘Post-Normal Science, the Precautionary Principle and the Ethics of Integrity’ (1997) 2 *Foundations of Science* 237

Whitty N, ‘The Mind, the Body and Reproductive Health Information’ (1996) 18 *Human Rights Quarterly* 224

Wilkinson S, ‘Eugenics, Embryo Selection, and the Equal Value Principle’ (2006) 1 *Clinical Ethics* 46
— — ‘Sexism, Sex Selection and “Family Balancing”’ [2008] *Medical Law Review* 369
— — *Choosing Tomorrow’s Children, The Ethics of Selective Reproduction* (Clarendon Press 2010)

Winkvist A; and Akhtar H Z, ‘God Should Give Daughters to Rich Families Only: Attitudes Towards Childbearing among Low-Income Women in Punjab, Pakistan’ (2000) 51 *Social Science and Medicine* 73

Wolff J, *Ethics and Public Policy, A Philosophical Inquiry* (Routledge 2011)

Wyon J B; and Gordon J E, *The Khanna Study: Population Problems in the Rural Punjab* (Harvard University Press 1971)

Zilberberg J, ‘Sex Selection and Restricting Abortion and Sex Determination’ (2007) 21 *Bioethics* 517

Websites

— — ‘Anaesthetic, General’ (*NHS Choices* 26 October 2011)
<www.nhs.uk/conditions/anaesthetic-general/Pages/Definition.aspx>
accessed on 26 August 2013

— — ‘Bhai-balwant-singh-rajoana’ (*Sikhsiyasat*) <www.sikhsiyasat.net/tag/bhai-balwant-singh-rajoana/> accessed on 26 August 2013

— — ‘Bone Marrow Donation - How it is Performed’ (*NHS Choices* 25 May 2012)
<www.nhs.uk/Conditions/Bone-marrow-donation/Pages/How-is-it-performed.aspx> accessed
on 26 August 2013

— — ‘Bone Marrow Harvesting’ (*Drug Information Online*) <www.drugs.com/cg/bone-marrow-harvesting-precare.html> accessed on 26 August 2013

Central Intelligence Agency ‘People and Society’ (*The World Factbook*)
<www.cia.gov/library/publications/the-world-factbook/geos/xx.html>
accessed on 26 August 2013

— — ‘Definition of Risk in English’ (*Oxford Dictionaries*)
<http://oxforddictionaries.com/view/entry/m_en_gb0712950#m_en_gb0712950>
accessed on 26 August 2013

— — ‘Designer Babies’ (*Bioethics Education Project*)
<www.beep.ac.uk/content/115.0.html> accessed on 26 August 2013

— — (*Dollars to Pounds Conversion*) <www.dollars2pounds.com/> accessed on 26 August
2013

— — ‘F-2010-00237 - Minutes of HFEA Ethics and Law Committee Meetings’ (*HFEA* 19
November 2010) <www.hfea.gov.uk/6293.html> accessed on 26 August 2013

— — ‘Getting Pregnant and Fertility Tests: Pre-Implantation Genetic Diagnosis (PGD)’
(*Getting Pregnant*) <www.gettingpregnant.co.uk/pgd.html>
accessed on 26 August 2013

— — ‘HFEA Confirms that HLA Tissue Typing May Only Take Place when PGD is
Required to Avoid a Serious Genetic Disorder’ (*HFEA* 1 August 2002)
<www.hfea.gov.uk/935.html> accessed on 26 August 2013

— — ‘HFEA to Allow Tissue Typing in Conjunction with Preimplantation Genetic
Diagnosis’ (*HFEA* 13 December 2001) <www.hfea.gov.uk/961.html>
accessed on 26 August 2013

— — ‘How to Balance the IVF Cost per Cycle with the IVF Success Rate’ (*IVF Cost*)
<www.ivfcost.net/ivf-cost/ivf-cost-at-krishna-ivf-clinic-india-great-information> accessed on
1 July 2013

— — ‘Initiatives to Improve Sex Ratio in Punjab’ (*Department of Health and Family
Welfare, Government of Punjab*) <<http://pbhealth.gov.in/major13.htm>> accessed on 26
August 2013

- — ‘Jarnail Singh Bhindranwale’ (*Wikipedia*)
<http://en.wikipedia.org/wiki/Jarnail_Singh_Bhindranwale>
accessed on 26 August 2013
- — ‘Jat’ (*Encyclopedia Britannica*)
<www.britannica.com/EBchecked/topic/301575/Jat>
accessed on 26 August 2013
- — ‘Jatt’ (*Sikhi Wiki* 25 August 2012) <www.sikhiwiki.org/index.php/Jatt>
accessed on 26 August 2013
- — ‘Libertarianism’ (*The Information Philosopher*)
<www.informationphilosopher.com/freedom/libertarianism.html> accessed on 26 August 2013
- — ‘Operation Blue Star – Background’ (*Sikh History*) <www.sikh-history.com/sikhhist/events/attack841.html> accessed on 26 August 2013
- — ‘Origins of Sikhism’ (*BBC*, 30 September 2009)
<www.bbc.co.uk/religion/religions/sikhism/history/history_1.shtml>
accessed on 26 August 2013
- — (*Oxford English Dictionary Online*) <www.oed.com> accessed on 1 August 2013
- — ‘PGD Conditions Licensed by the HFEA’ (*HFEA* 26 August 2013)
<www.hfea.gov.uk/cps/hfea/gen/pgd-screening.htm> accessed on 26 August 2013
- — ‘Preimplantation Genetic Diagnosis (PGD) in India’ (*We Care Health Services*)
<www.indiasurgerytour.com/ivf-india/ivf-treatment/india-pgd-preimplantation-genetic-diagnosis.html> accessed on 26 August 2013
- — ‘Pre-Implantation Tissue Typing (‘Saviour Siblings’)’ (*HFEA* 7 June 2010)
<www.hfea.gov.uk/preimplantation-tissue-typing.html> accessed on 26 August 2013
- — (*Rupees to Pounds Conversion*) <www.rupees2pounds.com/> accessed on 26 August 2013
- — ‘Select Committee on Science and Technology Fifth Report’ (24 March 2005)
<www.publications.parliament.uk/pa/cm200405/cmselect/cmsctech/7/703.htm> accessed on 29 August 2013
- — ‘Sex Ratio in Census 1901 to 2011’ (*Department of Health and Family Welfare, Government of Punjab*) <http://pbhealth.gov.in/pdf/stat/sex_ratio_punjab.pdf> accessed on 30 June 2012

- — ‘Sex Selection’ (*We Care Health Services*)
<<http://indiahealthtour.com/treatments/surrogacy/sex-selection-india.html>>
accessed on 26 August 2013
- — ‘Sex Selection and Abortion: Keep Within the Law’ (*General Medical Council* 22 August 2012) <www.gmc-uk.org/publications/12225.asp> accessed on 26 August 2013
- — ‘Sex Selection in India’ (*Religion and Ethics Newsweekly* 1 June 2001)
<www.pbs.org/wnet/religionandethics/week440/cover.html> accessed on 26 August 2013
- — ‘Sikhism in Britain’ (*BBC*, 30 September 2009)
<www.bbc.co.uk/religion/religions/sikhism/history/britishsikhism.shtml> accessed on 26 August 2013
- — ‘Sikhs take Execution Protest to Canberra’ (*Sikh Net* 29 March 2012)
<www.sikhnet.com/news/sikhs-take-execution-protest-canberra>
accessed on 26 August 2013
- — (*The Diamond Blackfan Anaemia Charity*) <www.diamondblackfan.org.uk/> accessed on 26 August 2013
- — ‘The PGD Treatment Cycle’ (*Centre for Preimplantation Genetic Diagnosis* 6 July 2009) <www.pgd.org.uk/whatispgd/stages> accessed on 26 August 2013
- — ‘Warnock Report’ (*HFEA*) <www.hfea.gov.uk/2068.html> accessed on 26 August 2013
- — ‘What’s it Like to Donate Stem Cells?’ (*American Cancer Society* 23 August 2012)
<www.cancer.org/treatment/treatmentsandsideeffects/treatmenttypes/bonemarrowandperipheralbloodstemcelltransplant/stem-cell-transplant-donor-experience> accessed on 26 August 2013
- Bailey R, ‘Sex Selection’ (*Reason.com* 3 October 2001)
<<http://reason.com/archives/2001/10/03/sex-selection>> accessed on 26 August 2013
- Bailey R, ‘Sexing Babies’ (*Reason.com* 6 October 2004)
<<http://reason.com/archives/2004/10/06/sexing-babies>> accessed on 26 August 2013
- Bhatia R; Mallik R; and Dasgupta S D, ‘Sex Selection: New Technologies, New Forms of Gender Discrimination’ (*Committee on Women, Population and the Environment*, 1 October 2003) <www.cwpe.org/resources/healthrepro/sexselnewtech> accessed on 26 August 2013
- Bora R, ‘What is Preimplantation Genetic Diagnosis (PGD)? And how PGD Helps in Gender Selection of Child?’ (*India Study Channel* 14 January 2011)

<www.indiastudychannel.com/resources/134691-What-Preimplementation-Genetic-Diagnosis-PGD.aspx> accessed on 26 August 2013

Heisler J, 'How to Donate an Organ to a Friend or Family Member' (*About.com Surgery* 18 February 2011) <http://surgery.about.com/od/beforesurgery/ss/LRDonationTx_5.htm> accessed on 26 August 2013

HFEA, *A Summary of the 111th Meeting of the Human Fertilisation and Embryology Authority* (HFEA 28 September 2001) <www.hfea.gov.uk/en/1256.html> accessed on 12 October 2011

— — 'Codes of Practice' (HFEA all to date) <www.hfea.gov.uk/code.html> accessed on 27 August 2013

— — 'Compliance and Enforcement Policy' (HFEA 1 October 2011)

<www.hfea.gov.uk/docs/CompEnforPolicy2011.pdf> accessed on 27 August 2013

— — 'Ethics Committee's Meeting' (HFEA May 2003)

<www.hfea.gov.uk/docs/ELC_minutes_may03.pdf> accessed 10 December 2011

— — 'HFEA Announces Recommendations on Sex Selection' (HFEA Press Release 12 November 2003) <www.hfea.gov.uk/803.html> accessed on 27 August 2013

HFEA ELC, 'Conditions under which PGD with Tissue Typing would be Acceptable' (HFEA December 2003) <www.hfea.gov.uk/docs/ELC_13_Dec03.pdf> accessed on 26 August 2013

Hilton L, 'Anesthesia, General' (*Encyclopedia of Surgery*)

<www.surgeryencyclopedia.com/A-Ce/Anesthesia-General.html> accessed on 26 August 2013

Human Tissue Authority, *Code of Practice: Donation of Organs, Tissue and Cells for Transplantation (Code 2)* (2006) <www.hta.gov.uk/_db/_documents/2006-07-04_Approved_by_Parliament_-_Code_of_Practice_2_-_Donation_of_Solid_Organs_200607133233.pdf> accessed on 27 August 2013

Hvistendahl M, '160 Million Missing Girls' (*Sigmund, Carl and Alfred* 11 June 2011) <<http://sigmundcarlandalfred.wordpress.com/2011/06/11/160-million-missing-girls-%E2%80%99sex-selection%E2%80%99-is-creating-a-new-endangered-species-women/>> accessed on 26 August 2013

Marcus D, 'How Much does IVF Treatment Actually Cost?' (*IVF-Infertility.com* 6 July 2013) <www.ivf-infertility.com/ivf/standard/procedure/costs.php> accessed on 26 August 2013

Sheldon S; and Wilkinson S, 'Reproductive Technologies' (*Pro+Choice Forum*)

<www.prochoiceforum.org.uk/irl_rep_tech_2.php> accessed on 26 August 2013

Suman M, 'Women in the Armed Forces' (*Indian Defence Review* 31 January 2012)

<www.indiandefencereview.com/spotlight/Women-in-the-Armed-Forces.html> accessed on

26 August 2013

Staples S, 'Shabanu and Haveli' (*Suzanne Fisher Staples*)

<<http://suzannefisherstaples.com/for-teachers-students/>> accessed on 26 August 2013

WHO, 'Basic Documents: Constitution of the World Health Organization'

<<http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf>> accessed on 8 July 2012

Wonacott P, 'India's Skewed Sex Ratio Puts GE Sales in Spotlight' (*Centre for Genetics and Society* 19 April 2007)

<www.geneticsandsociety.org/article.php?id=3450>

accessed on 26 August 2013